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ABSTRACT

A three-year research project investigated the effects of instructional practices and patterns of language use in bilingual and English-only classrooms on general academic development and the development of English language skills by limited-English-proficient students, especially those skills needed to participate fully in the society's schools. The subjects were native Chinese- and Spanish-speaking students with two to three years of exposure to English, from 17 bilingual program classes. Tests, classroom observation, and audio and video recordings focusing on instructional situations were used to assess oral and written language comprehension and production, subject-area academic achievement, and the instructional practices and patterns of instructional language use. It was found that variables influencing development of English production skills included: interactional opportunities, especially for Hispanic students and those with lower initial English proficiency; quality of the learning environment, especially for Chinese students with low initial English proficiency; and quality of language and teaching, largely for Hispanic students. Variables affecting English comprehension skills included: percent of time in teacher-directed activity; quality of learning environment, for Hispanics at all levels and for Chinese at the intermediate level; quality of instructional language, only for Hispanics; interactional opportunities, for Hispanics; and verbal and extended-response practice, for the Chinese. (MSE)

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ED259579

FINAL REPORT

FOR

LEARNING ENGLISH THROUGH BILINGUAL INSTRUCTION

Submitted to

The National Institute of Education

by

Lily Wong Fillmore,

Principal Investigator

Paul Ammon,

Co-Principal Investigator

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and

Mary Sue Ammon,

Research Psychologist

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EXECUTIVE SUMMARY

Learning English through Bilingual Instruction

Final Report on NIE-400-80-0030
Submitted to the National Institute of Education
by

Lily Wong Fillmore, Principal Investigator
Paul Ammon, Co-Principal Investigator
Barry McLaughlin, Co-Investigator
Mary Sue Ammon, Research Psychologist
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Project description:

"Learning English through Bilingual Instruction" was a three year research project funded under through the Part C Agenda which investigated the effects of instructional practices and patterns of language use in bilingual and English only classrooms on general academic development and on the development of the English language skills by LEP students. This study was designed specifically to determine what instructional strategies are most effective for helping LEP students acquire the English language skills they will need in order to participate fully in the society's schools. The research questions that guided the study were:

1. What instructional practices best foster the acquisition and development of school-related language skills in the second language (i.e., English) of bilingual students?

2. What student language characteristics interact with instructional practices to affect the acquisition of second language skills?

The study was thus concerned with the development of the language skills needed for school partipation, and for learning from teachers and textbooks. During the first year of the study, the Research Team determined just what kinds of English language skills were required for academic development by going into classrooms and studying in detail the language used by teachers and students in the conduct of formal instructional activities. We also investigated the linguistic demands of the textbooks that students at the third and fifth grades are expected to handle. The outcome of that year of work was a battery of oral and written language assessment instruments which was later used to assess the language learning outcomes reported in this study. The period of the main investigation which took place in 17 classrooms was one school year. The 17 classes were at the third and fifth grades, and included bilingual and English only classes that served Chinese and

Hispanic background students. The following table shows how the classes were distributed by type, grade level and L1 background of the students:

Distribution of the 17 Classes

	N	Bilingual Classes	English-only Classes
3rd	13	4 Hispanic 4 Chinese	3 Hispanic 2 Chinese
5th	4	1 Hispanic 1 Chinese	1 Hispanic 1 Chinese
Total =	17	=10 Bilingual	= 7 English-only

The subjects of the study were all of the Chinese or Spanish L1 students in the 17 study classes with 2-3 years of exposure to English; there were 157 of them who met our selection criteria.

The purpose of the study then was an investigation of the extent to which features of classroom life such as instructional organization, instructional approach, instructional language use, student characteristics, class composition, and classroom environment affected gains in oral language development (production and comprehension), written language development (reading and writing) and general academic development (reading achievement, language arts, math).

Methods:

The methods used in this study included testing (language, reading, writing, etc.); classroom observations which focused on learners and on teachers; audio and video recordings of lessons which focused on the instructional practices employed by teachers and the instructional experiences of learners.

1. Oral language development was assessed by "The Shell/Rock Game", a simulated science lesson. Language produced by the subjects during the "lesson" was assessed for grammaticality, structural complexity and informativeness. Non-verbal and verbal responses to commands and questions based on information "taught" during "the lesson" formed the basis for our assessment of the subjects' comprehension of English.

2. Written language development was assessed by (1) reading

tasks which assessed knowledge of English vocabulary, syntax and textual conventions with an emphasis on text interpretation strategies and comprehension (we were also interested in reading accuracy); and by (2) writing tasks which assessed productive capacity with written English in terms of composition, style, and genre (i.e., expository and narrative).

3. Academic achievement was assessed by the CTBS Test given by all school districts in California in May of each school year.

4. The instructional practices and patterns of instructional language use which made up our independent variables were assessed by rating instruments based on the audio and video recordings that we had collected during the study year.

Findings:

There were four major clusters of instructional variables that were found to be critically related to language learning. They can be described as (a list of the instructional features contained in these summary variables is appended):

1. QUALITY OF TEACHING

2. QUALITY OF LEARNING ENVIRONMENT

3. QUALITY OF INSTRUCTIONAL LANGUAGE [as linguistic input]

4. AVAILABILITY OF OPPORTUNITIES TO PRACTICE ENGLISH [in interactions with peers and teachers]

The instructional variables were found to interact in complex ways with two types of learner variables:

1. Initial proficiency in English

2. Ethnic group

An important preliminary finding of the study was this:

L1 usage in bilingual classes: We found a reluctance on the part of teachers in bilingual classes to use the L1's of the LEP students for instruction. A precise measure of the language used by teachers in our bilingual classrooms revealed an average usage

of the students' L1's just 8%, relative to the use of English and teacher silence (the range was 0 to 24%). The growing emphasis on English, even in bilingual classes, stems from the increased pressure on schools and teachers everywhere to provide LEP students with the linguistic means to make a rapid adjustment into English only classes. Our observations indicate, however, that the amount of English used in classrooms serving LEP students is not as crucial a factor as the way it is used.

The major findings of the study were:

1. Different aspects of instructional practices and classroom experiences influence the development of comprehension vs. production skills.

2. The instructional practices that were found to influence language development have differential effects on learners depending on their initial level of proficiency in English.

3. The instructional practices that influence language development work differently for children, depending on their cultural/ethnic background.

4. The role played by the teacher depends on the concentration of LEP students in the class and school, and on the availability of English speakers to interact with.

More specifically, the following relationships were found between our independent variables, and oral language development:

Variables that influence the development of PRODUCTION skills in English:

1. "Interactional opportunities" were related to gains in production for everyone. but--

   --There was a greater effect for Hispanic students than for Chinese students.

   --There was a greater effect for students with low initial proficiency in English, generally. (The Chinese students were an exception--they got more out of interactional opportunities when they were at intermediate levels of proficiency.)

2. "Quality of the learning environment":

   --Significant gains for Chinese students with

low initial levels of English proficiency in classes that were high on this variable.

--Opposite effect for Hispanic students!

3. "Quality of instructional language" and, "Quality of teaching" were both related to gains in production skills for all, but--

--The greatest effects were related to gains for Hispanic students.

--There were relatively minor effects on Chinese students, even at the lowest levels of initial English proficiency.

Variables that influence the development of COMPREHENSION skills in English:

1. Percent time in teacher directed activities (formal lessons, teacher directed discussions, etc.) was related to gains in comprehension for everyone.

2. "Quality of the learning environment":

--Related to gains in comprehension for Hispanic students at all levels of English proficiency.

--Related to gains for Chinese students only when they reach an intermediate level of English proficiency.

3. "Quality of instructional language":

--Related to gains for the Hispanic students, but <u>not</u> the Chinese.

4. "Interactional opportunities":

--Related to gains for the Hispanic students, but <u>not</u> the Chinese. In fact, the Chinese did worse in classes that were high on these variables!

5. Factors that <u>were</u> related to gains in comprehension skills for the Chinese students:

* Verbal practice in teacher-directed lessons

* Practice giving extended responses in lessons

* Opportunities for oral participation in instructional activities

* Individual help given by teachers to students

Conclusions that can be drawn from our findings are these:

1. All learners profit from opportunities to interact with peers who speak the target language, but the Hispanic students profit especially. The more opportunities they find to use English with peers, the more they gain in production and comprehension.

2. Chinese learners profit from interactional opportunities with peers only after they have reached intermediate levels of English proficiency.

3. Chinese learners profit more from structured, relatively noise-free learning environments. This factor is related to gains in production and comprehension for them. It is related to gains in comprehension, but not production for Hispanic learners.

4. Quality teacher directed instruction is important for all, but especially for the Hispanic students.

5. Hispanic students are relatively more sensitive to the quality of teaching and to the quality of the instructional language they are exposed to than are Chinese students. Chinese learners are more "immune" to differences in teachers, because they tend to "compensate" for less successful teachers.

6. Chinese students profit most from close interaction with their teachers, and from assisted practice with the language in lessons. They depend more on adults for input than they do from peers. They need a great deal of guided practice especially during the earliest stages of learning English.

Implications:

The findings in this study have important implications for educators who are concerned with the education of LEP students. It is clear that instructional practices and settings work differently for different groups of students. The kinds of settings that favor Chinese students may inhibit learning for Hispanic students. Given

the right conditions and experiences, both groups can flourish educationally, but those conditions and experiences must be tailored to the characteristics of each group. Furthermore, it has been shown that high quality teaching and instructional language use by teachers result in the development of the English language skills needed for academic learning. Apprehensions over the use of the students' L1's in school are unjustified, since the critical factors in classrooms were how teachers used language and instructed their LEP students rather than how much English they used. Our findings suggest that ultimately there are no easy answers in the planning and conduct of programs for LEP students from diverse language and cultural backgrounds: educators must take cultural factors into account in their consideration of various methods of for educating LEP students. They suggest that while factors such as the quality of input and the type of instruction provided by teachers are important, ultimately there are no simple answers to the very large question of what works, or what works best for LEP students. It is clear that educational treatments interact with group learning styles, and that the quest to increase the effectiveness of schooling for all children has got to begin with efforts to discover what works for different groups. Children do not come to school not empty handed; they bring a wealth of social, cultural, intellectual and linguistic knowledge that they have acquired through prior experiences in the home and in their communities--no matter how humble their circumstances. Their parents have given them a language and a perspective on the world. They have presented them with information on a variety of matters that are of importance to the family and group. The ways in which parents and other members of the cultural group have made this information and knowledge available are tied up with the group's communicative and teaching style. Children's early learning and communicative experiences greatly influence their expectations about how things are going to be done in other settings.

Appendix A
THE SUMMARY VARIABLES

The summary variables that were found to have the greatest influence on language development in this study comprised the following instructional features:

I. QUALITY OF THE LEARNING ENVIRONMENT:

--Low noise level (acoustics, movement, level of noise from outdoor and from surrounding classes, teacher's tone of voice, etc.)

--Low teacher distractability (teacher stays focused in lessons and in interactions with students)

--Learning centered behavior promoted (most of the activities conducted in the classroom are related to curricular goals; teacher promotes task-centered behavior)

II. QUALITY OF THE INSTRUCTIONAL LANGUAGE THAT SERVES AS INPUT

(N.B. By instructional language as input,

* We are talking about English used as a medium of instruction rather than when it is the "content" being taught.

* Language learning becomes "input" when it meets certain criteria: it is "comprehensible", i.e. it is used in ways that allow learners to figure out for themselves what the speaker is trying to say; it is structurally "transparent", i.e., it is used in ways that allow the learners to figure out how the utterances are structured; it is language that is being used for real communicative purposes.

* Language learning is a collaborative process--both the learners and target language speakers have got special parts to play. The TL speakers have got to modify their speech when speaking to learners in ways that allow them to figure out what they are saying, and to see how the language works. The learners have got to work at figuring out what the speakers are saying, since in that process they figure out how the language works. The process can get short-circuited in at least two ways--the TL speakers don't do what they are supposed to be doing, or the learners don't try to figure out what's going on.

* The two languages of instruction have to be kept apart.]

The following are aspects of the instructional language variable related to the language used by teachers during lessons:

--Level of structure and vocabulary is appropriate for LEP students, given their current level of proficiency in English

--Adjustments in level of English used are based on student feedback

--Adjustments in level of content being taught are based on student feedback

--Message redundancy by use of paraphrase, repetition, situational anchoring

--Dependence on demonstration, enactment, and realia to get information across to LEP learners

--Contextualization of information--new information is related to given or previously learned information

--Exemplification and simplified explanations as needed

--Use of explicit discourse markers such as "first", "next" "before", "that's why..." etc., as aids to comprehension

--Teacher's language is a good model of the target language--grammatically, phonologically, and idiomatically speaking.

--Calling attention to the language in the course of using it

--Using the language in ways that reveal its structure, e.g., by presenting information in paradigm-like sets, etc.

--Explicit discussion of vocabulary and structure

The following are aspects of the instructional language variable having to do with the way other instructional practices provide structural support for the input. These help to increase the students' chances for figuring out or predicting what their teachers are trying to communicate to them during lessons:

--Predictability by time and place what kids are supposed to be doing

--Consistency and clarity of "lesson scripts"

--Clear lesson phases, these phases clearly marked by explicit comments on format

--Lessons follow a daily schedule

--Lessons are consistent across days, and across groups

III. THE INTERACTIONAL OPPORTUNITY VARIABLE

The following are aspects of the interactional opportunity variable which are related to students' chances to practice the use of English during formal instructional activities:

--Plenty of turns for everyone during lessons (fair and systematic turn-allocation procedures are used)

--Turns call for extended responses

--Teachers provide assistance as needed by students in oral participation ("assisted production" through scaffolding, modelling, expansions, etc.)

--Helpful, useful feedback provided

The following are aspects of the interactional opportunity variable which are related to peer interaction:

--Availability of target language peers to interact with

--Seating and grouping that facilitate interaction between TL speakers and learners

--Freedom to talk and to interact with peers during classtime

--Built-in opportunities to interact with peers on work--e.g., through peer-tutoring, group assignments, students given collaborative assignments, encouragement for students to consult one another

IV. THE QUALITY OF TEACHING VARIABLE

--Learning tasks and materials are at appropriate levels for LEP students

--Focus on language in instruction (attention is given to language in lessons that are not on language even)

--Language structure and vocabulary are taught (formally through ESL or during language arts instruction, or informally--e.g., calling students' attention to new forms,

defining words, teaching vocabulary during subject matter instruction, etc.)

--Focus on comprehension (frequent checks on comprehension during lessons and other instructional activities; paraphrases, explanations, exemplification, demonstrations, providing definitions, etc., as needed for clarification; teacher frequently models interpretive strategies for students)

--Varied, effective use of instructional models (not just rote learning and practice, but emphasis on discovery, interpreting, conceptualizing, classifying, too.

--Individual help given frequently

--Teacher gives informative and diagnostic feedback on work, and on oral performances

--Students are given many opportunities to work together

--Teacher uses content-rich, elaborated language which is relevant, clear and audible to all

--Teacher focuses on high level skills (comprehension, integration of operations, strategies, etc.) rather than on low level or mechanical skills

--Clarity of instructional goals (what teacher is getting at in lessons is obvious)

--Clarity of expectations (what students should be doing or getting out of the lesson is clear)

--Richness of content (Not just the bare minimum--e.g., focus on literary experience rather than focus on reading for information

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TABLE OF CONTENTS

List of Tables vi

List of Figures. ix

Chapter

1. BACKGROUND OF THE STUDY. 3

1.1 Purpose and Description of the Study. 3

1.2 Overview of This Report 8

1.3 Research Design 9

1.4 Instructional Features in Bilingual Education 14

1.4.1 Language Use 14

1.4.2 Classroom Organization 16

1.5 Situational Variables 18

1.6 Learner Variables 20

1.6.1 Age at Introduction to English 20

1.6.2 Language Group Membership. 21

1.6.3 Individual Differences 22

1.7 Language Skills Needed for School 26

2. GENERAL CHARACTERISTICS OF STUDY SITES 28

2.1 The Social and Political Context of the Study 28

2.2 The Districts 35

2.3 The Schools 41

2.4 Characterization of Individual Classrooms 64

2.4.1 Demographic Variables. 65

Language Background of Children. 66
Ethnic Background of Children. 68
Foreign Born Children in Target Classrooms 69
NES and Low LES Children in Target Classrooms. 70

2.4.2 CTBS Achievement Data. 72

The Nature of the CTBS Test. 73
Descriptive Findings on the CTBS 78

2.5 Characterization of the Target Subject Sample 86

2.6 Non-English-Speaking Subject Sample 89

3. TEACHERS AND INSTRUCTIONAL PRACTICES: THE INDEPENDENT VARIABLE 90

3.1 Teachers and Classrooms 91

3.1.1 Teacher Characteristics. 91

Background of Teachers 92
Teachers' Proficiency in English 93
Support Services for Teachers. 94
ESL and Other Pullout Services 96

3.1.2 Activity Structure in the Classrooms 99

3.1.3 Teacher Language Usage in Instruction. 110

3.2 Independent Variables 115

3.2.1 Instructional Practice Variables 115

Noise and Activity Level 115
Distractability. 121
Academic Work Orientation. 123
Peer Interaction on Schoolwork 126
Instructional Model Use. 129
Good Teaching. 132
Low Skill Teaching 140
Language Teaching and Feedback 144
Individualized Help. 146
Informative Help on Oral Production. 149
Feedback on Written Work 153
Extended Responses Required and Modeled. 154
Opportunities for Oral Participation 159
Written Responses Required 160

3.2.2 Instructional Language Use Variables 161

4. ORAL LANGUAGE VARIABLES. 177

4.1 Oral Language Assessment Instruments. 179

4.1.1 The Shell and Rock Games 183

4.1.2 Scoring Procedures 188

Production 189
Comprehension. 195

5. MAJOR FINDINGS 197

5.1 Oral Language Data. 197

5.1.1 Pretest Data: Shell Game. 197

5.1.2 Posttest Data: Rock Game. 210

5.2 Oral Language Gains Related to Instructional Variables. . . 211

5.2.1 Correlational Data 211

5.2.2 Differences between Groups of Children 214

5.3 Summary Variables 215

5.4 The Effect of Initial Proficiency Level and Cultural Background. 216

5.4.1 Production Dependent Variables 217

5.4.2 Comprehension Dependent Variables. 223

5.4.3 Summary of Findings on Production and Comprehension Gains. 232

5.5 Comparisons of Classes by Overall Gains in Proficiency. . . 235

5.5.1 Gain in Production, Loss in Comprehension. 239

5.5.2 Loss in Production, Gain in Comprehension. 243

5.5.3 Loss in Production, Loss in Comprehension. 244

5.5.4 Gain in Production, Gain in Comprehension. 246

5.6 The Effects of Instructional Structure and Patterns of Language Use on Oral Language Development 248

5.6.1 Characteristics of Classrooms at Settings for Language Learning 248

How Participant Structure in Lessons Affects Language Learning. 250
Structural Characteristics of Lessons That Work for Language Learning. 256

5.6.2 How Language Use in Lessons Affects Language Learning. . 265

Characteristics of Teacher Talk that Works as Input. . 266

6. THE NES SUBSTUDY 285

6.1 Introduction. 285

6.2 The Problem Discussed 286

6.3 Methods 293

6.3.1 Subjects 293

6.3.2 Data Collection Procedures 294

6.4 Findings. 298

6.4.1 Common Practices 298

6.4.2 ESL Instruction. 309

6.4.3 Instructional Roles. 311

6.4.4 Coordination 314

6.4.5 Language Practices 315

6.4.6 The Role of Classmates 320

6.5 Summary 321

7. CONCLUSION 326

7.1 Summary of the Findings 330

7.2 The Ethnography of Bilingual Classrooms 333

7.3 Bilingualism and Biculturalism in the Classroom 337

7.4 A Final Word. 344

References 347

Appendix A 359

Appendix B 376

Appendix C 400

Appendix D 411

LIST OF TABLES

2.1 Percentage Speakers of Various Languages in Hispanic Classrooms 66a

2.2 Percentage Speakers of Various Languages in Chinese Classrooms 66b

2.3 Percentages of Speakers of Various Languages by Grade and Classroom 66c

2.4 Transience of Students in Classrooms by Grade and Ethnicity 67a

2.5 Percentage of Students of Different Ethnic Backgrounds by Grade, Ethnicity, and Type of Classroom 68a

2.6 Percentage of Students of Different Ethnic Background by Grade and Classroom 69a

2.7 Percentage of Students According to Place of Birth by Grade, Ethnicity, and Type of Classroom 69b

2.8 Percentages of Foreign Born Students by Grade and Classroom 70a

2.9 Percentages of Students with Little or No Previous Instruction in English Prior to Study Year by Grade, Ethnicity, and Classroom Type 70b

2.10 Percentages of Students with Little or No Previous Instruction in English Prior to Study Year by Classroom 71a

2.11 Means and Standard Deviations of Spring 1981 CTBS Reading Performance for Whole Class 79a

2.12 Performance of Classrooms on CTBS Reading, Reported by Stanine 81a

2.13 Means and Standard Deviations of Spring 1981 CTBS Language Arts Performance for Whole Class 81b

2.14 Performance of Classrooms on CTBS Language Arts, reported by Stanine 82a

2.15 Means and Standard Deviations of Spring 1981 CTBS Mathematics Performance for Whole Class.....84a

2.16 Performance of Classrooms on CTBS Mathematics, Reported by Stanine 84b

2.17 Distribution of Subjects in Final Target Sample by Classroom, and Grade X Ethnicity Groups 87a

2.18 Distribution of Target Subjects According to Place of Birth 87b

2.19 Amount and Type of Educaation in American Schools for Target Subjects 88a

2.20 Distribution of NES Subjects by Classroom and Grade X Ethnicity 89a

3.1 Language Background of the 19 Teachers in the Study.....92

3.2 Percent of Time Devoted to Three Different Types of Activity Groups across Sites.....103

3.3 Time Spent by Students in Teacher-Directed vs. Self-Directed Activities in the 17 Classrooms.....107

3.4 Teacher's Use of English, Spanish, or Silence and Minutes between Instances of Translation.....113

3.5 Teacher's Use of English, Cantonese, or Silence and Minutes between Instances of Translation.....113

5.1 Production Scores by Class and Language Group on Pretest (Shell Game).....197a

5.2 z-Scores for Production Items by Class and Language Group on Pretest (Shell Game).....198a

5.3 Comprehension Data: Percent of Subjects Correctly Responding to Items of Varying Degrees of Difficulty by Class and Language Group on the Pretest (Shell Game).....198b

5.4 Production Scores by Class and Language Group on Posttest (Rock Game).....210a

5.5 z-Scores for Production Items by Class and Language Group on Posttest (Rock Game).....210b

5.6 Comprehension Data: Percent of Subjects Correctly Responding to Items of Varying Degrees of

Difficulty by Class and Language Group on the Posttest (Rock Game)..... 211a

5.7 Significant Interaction Effects from Regression Analyses for Summary Variables (Initial Ability x Summary Variable)..... 217a

5.8 Third Grade Classes Ranked by Gains in English Proficiency and by Beginning and End Test Scores..... 235

6.1 How NES Students Were Accommodated in Classes..... 298

LIST OF FIGURES

Figure 2.1a Percentage Monolingual English Speakers and Cantonese Speakers in Grade 3 Chinese Classrooms.....66d

Figure 2.1b Percentage Monolingual English Speakers and Spanish Speakers in Grade3 Hispanic Classrooms.....66d

Figure 2.1c Percentage Monolingual English Speakers and Cantonese or Spanish Speakers in Grade 5 Classrooms.....66d

CHAPTER 1

BACKGROUND OF THE STUDY

1.1. Purpose and Description of the Study

The research project, Learning English Through Bilingual Instruction [NIE 400-80-0030], was one of several commissioned by the National Institute of Education and the Part C Coordinating Committee with the goal of determining, through research, how best to meet the educational needs of the limited English proficiency students in the society's schools. This study was one that was designed specifically to determine what instructional strategies are most effective for helping LEP students acquire the English language skills they will need in order to participate fully in the society's schools. Several large issues were examined in the study. These issues, which were raised in the original Request for Proposals, called for an examination of the manner in which instructional practices followed in classes serving LEP students affect their learning of English, and for an investigation of the extent to which learner characteristics such as age and first language background interact with the instructional practices of interest to affect their outcome.

The specific research questions that guided the study were:

(1) What instructional practices best foster the acquisition and development of school-related language skills in the second language of bilingual students?

(2) What student language characteristics interact with instructional practices to affect the acquisition of second language skills?

The study was thus concerned with the development of the language skills needed for school participation, and for learning from teachers and textbooks. In conducting the study, we examined the many ways in which teachers provided language learning opportunities for students as they presented subject matter instruction to them each day, and we also examined the ways in which students, as individuals, made use of the language learning opportunities they found in their classrooms. In addition to this primary focus on the learning of English language skills, we were also concerned with establishing just how the various instructional practices we were studying facilitated the educational development of LEP students in the learning of subject matter and basic skills. In other words, we were interested in discovering how these instructional practices influenced the overall academic development of LEP students.

We want to emphasize here that our purpose has been to study the effects of certain instructional practices followed in classes serving LEP students, and not to evaluate the effectiveness of the classes themselves, or of the programs they represented. Educational programs vary enormously in how they are implemented and, in many respects, it is futile to talk about effectiveness in terms of "programs". What is described administratively as an English as a Second Language [ESL] program in one school may be completely different from ESL programs in other schools, and classes within the same program in a given school may differ widely. Similarly, when one looks closely at classes that

are described as "Bilingual", it is easier to find differences among them than it is to find commonalities. By definition, bilingual education in the United States involves

> the use of two languages, one of which is English, as mediums of instruction for the same pupil population in a well-organized program which encompasses all or part of the curriculum and includes the study of the history and culture associated with the mother tongue (U.S. Office of Education, 1971).

In reality, "bilingual" programs vary widely in how well they match this description. They may all begin with the same idealization, programmatic goals, and orientation, but just how they get realized depends on a variety of different factors. Classrooms (and, it goes without saying, educational programs) are enormously complex social entities. Teachers and students have conventional roles to play in a classroom, but they operate under the influence of all sorts of individual vicissitudes; what they do, and how they respond to one another depends to a large extent on the interaction of hidden and often unrecognized individual concerns. These concerns can stem from a large number of sources. Children are products of their cultures, and of their early experiences. Their parents, families, friends and community can influence the kind of expectations they have of school and their motivations and attitudes towards education as well, which in turn can affect their functioning in school (Ogbu, 1978; Heath, 1983; Hess & Shipman, 1968; Keeves, 1972; Smith, 1968). The academic performance of these children depends at least in part on their own expectations, motivations and attitudes, but it also depends on their teachers' expectations, and motivations for them, as we have learned

from research (Braun, 1976).

Teachers in educational programs serving LEP students are subject to special pressures that are seldom recognized either by their colleagues or by the general public. While all educational programs are subject to evaluation, few are as closely scrutinized or monitored as are bilingual programs. There is a substantial segment of the American public which believes that the only appropriate educational goal for LEP students is to learn English quickly and thoroughly, and thus, the only justification for bilingual instruction would be that it accelerated the learning of English. Such programs are often evaluated on the basis of whether the students they serve are learning English rapidly, and on little else. Hence, many teachers are reluctant to use anything but English in their teaching, out of a belief that any use of the students' home language in school will delay their learning of English. And so the purpose of bilingual education is often subverted from within, and the children do not receive the benefits that could be theirs, if they were being taught at least some of the time in a language they understood easily. Studies comparing the outcome of such classes with all- English classes would show no difference in outcome, because, in fact, there are no real differences in practice between them to be measured.

Research in second language learning is showing that there are enormous individual differences to be found among children in how fast and well they learn a new language and that the sources of this variation can be found both in the way learners approach and deal with the complex task of learning a new language, and in the way learner

characteristics interact with the language-learning situation. The instructional practices and student characteristics that we have examined in this study are ones that on-going research on individual differences in second language acquisition have identified as major sources of variation among children in how fast and how well they manage the learning of the school language (Wong Fillmore, 1982, 1983). The instructional practices that appear to affect language learning most directly are those that have to do with how classroom lessons are structured and organized, and with how language (especially English) is used for the actual teaching of subject matter. Situational variables stemming from instructional policies with respect to the schooling of limited English speakers can also affect language learning, the most important of these being policies that affect class composition. Some classrooms in which such students find themselves are composed entirely, or almost entirely of non-English or limited- English speaking students while others have both students who are fluent in English and students who speak little or no English. Student characteristics that appear to be important sources of variability in language learning are those that affect the individual's ability to make use of whatever opportunities are available in the classroom to learn the new language, with the occasions on which English is being used in instructional activities by teachers and classmates being instances of such opportunities.

In this report, we present findings that reveal the intricate ways in which instructional, situational and student variables interact to influence the development of English language skills by

LEP students in school.

1.2. Overview of This Report

This report is divided into seven chapters. The first, the present chapter, deals with the background and design of the study. The second chapter characterizes the classrooms and subjects in our study. We also present demographic information about the schools and about our students by classroom, and characterize the classes with respect to their initial level of functioning on standardized achievement tests. In the third chapter, we describe the characteristics of the teachers, the instructional practices they followed, and the situational variables, all of which constituted the independent variables examined in this study. The fourth chapter deals with the characterization of the language skills of the children in our study, and presents detailed information about the procedures we used for assessing proficiency in oral language skills. In the fifth chapter we present the major findings of the study. We provide descriptive information, by class and/or by grade and ethnicity group, concerning the initial and final levels of functioning of the children on our oral language measures, and we discuss the analyses of these data against the independent variables examined in the study. The sixth chapter presents the findings of a descriptive substudy that dealt with the NES newcomers in the seventeen classrooms involved in the study. These students posed a special problem for the teachers since they had much greater needs for linguistic and instructional assistance than did the LEP students who had been around English much

longer. How the different schools and teachers dealt with their special needs is discussed in some detail in this chapter. Chapter seven is a concluding chapter in which we discuss the instructional implications of the findings presented in this report, and comment on continuing aspects of this work.

1.3. Research Design

We were concerned in this study with two types of factors: the effect of instructional practices on language learning, and the extent to which learner characteristics such as age and ethnicity are likely to interact with such instructional practices to affect their outcome. The design of our study represented an attempt to deal not only with instructional issues but with some major aspects of questions that now appear to be the crucial policy issues concerning the education of NES/LES students.

Policy makers considering the future of bilingual education are bound to ask the following questions:

(1) Does bilingual education do what it is supposed to do? (i.e., Are NES/LES students enrolled in such programs really getting more out of school linguistically and academically than they might without bilingual education?)

(2) Is bilingual education as effective a method for helping NES/LES students develop English language skills as are more "straightforward" methods such as intensive-English instruction, ESL, or

immersion in English?

(3) Do LES/NES students <u>really</u> need special help learning English, and if so, for how long?

At present, these questions are probably impossible to answer, at least when asked in this form. A basic problem is that it is not at all clear exactly what the criteria of success should be. With regard to the learning of English, it is generally understood that NES/LES children should be enabled to learn enough of the kind of English that is needed for success in the English-speaking world, particularly the world of the school. But what kind of English is that, and how much is enough? We and others have made considerable progress in identifying the English language proficiencies that might be critical and in developing ways to measure them, but a final test of our efforts in this regard requires longitudinal follow-up data on what happens to children who are exited from bilingual programs with varying levels of proficiency in English.

The problem of establishing an appropriate criterion of success arises also with regard to the goal of helping NES/LES children maintain normal academic progress. What is "normal" progress for such children? The use of national, or even local norms is questionable in many instances because we are concerned with children who come from ethnic or socioeconomic groups in which even native English-speaking children score below average. Moreover, it is possible that, at least for some children, the transition into a second language necessarily retards their academic progress, and that it takes them a relatively

long time to get caught up again, even under the best of circumstances one can reasonably expect to find in schools. Again, long-term longitudinal data are needed to explore such a possibility.

Finally, even if absolute criteria of success in bilingual education could be specified, it is highly unlikely that one could give an answer to the questions posed without saying the answers depend upon particular features of bilingual instructional programs and of the students they serve. Obviously the Significant Instructional Features studies were intended precisely to increase our understanding of the ways in which program differences and learner differences affect the outcomes of bilingual instruction. It should be equally obvious that such differences could have important implications for educational policy, as well as for theory.

Given the problems involved in identifying absolute levels of English proficiency and academic achievement as criteria of success in bilingual education, along with the desirability of considering differences among programs and students, it seemed better to adopt a comparative approach to the question of effectiveness. Because we could more easily identify the directions in which students should be moving, we are comparing different types of NES/LES students in different types of instructional programs to see which ones have moved farther or faster in the desired directions. We are using this comparative approach both to look at different types of bilingual instruction relative to each other and also to look at instruction in English only classrooms. Thus the question in this study is not what is the best type of bilingual program but what are the best type of

instructional practices for a given type of NES/LES child.

Essentially our project involved three separate studies. The primary one called for a comparison of the effects on development in English oral and written language abilities

(1) of various instructional practices in bilingual and all-English classrooms

(2) serving two ethnicity groups (Chinese and Hispanic)

(3) within two grade levels (third and fifth).

Thus, we have carried out an intensive study of students with two to three years of exposure to English in 17 classes, 13 at the third grade level, and 4 at the fifth, divided between classrooms labeled bilingual and English-only and between the two ethnicity groups being studied. Figure 1.1 summarizes the research design of this part of our project.

The second study we undertook was an examination of the language learning opportunities and experiences in our target classrooms of a second group of students, whose previous exposure to English ranged from 0 to 1 year at the beginning of the study year. The aim of this study was to describe the differences found among our target classrooms in how the problem of newcomers was handled. Data were collected on how such students were incorporated into the various classrooms, who taught them, how much direct instruction in English they received, how teachers dealt with their special language needs within instructional activities, how much interaction occurred between these

students and the more advanced ones, and how much participation in learning activities was invited from these NES students.

The third study subsumed in this project involves a comparison of the effectiveness of bilingual and all-English programs in enabling NES/LES students to make long-term academic progress. That is, in addition to the intensive study of students in our target classrooms, we also looked at the progress over a three to five year period of an additional number of students selected from among those who spoke little or no English when they entered school. Some of these students were in bilingual programs initially but were exited before the study year; others are still in bilingual classes; and still others have been in all-English classes from the time of their school entry. To do this comparison, we looked at the district language proficiency test data and achievement test scores (CTBS) on these children going back five years. Many of the children in the Spanish bilingual program were tested both with the English and the Spanish versions of the CTBS for several years, thus allowing us to consider their performance on the English version, in the light of their performance when tested in their first language, which is the language in which they have also been receiving a part of their subject matter instruction. Because annual test scores were made available to us, we have been able to examine the academic progress of these students longitudinally. In addition to the test data, we gathered information on these students from their schools and teachers. This additional information has made it possible for us to relate the test data to the students' educational experiences. This report treats the first two aspects of the

study. The third part constitutes some of the continuing work of the project mentioned above.

This report deals primarily with the influence of instructional practices on the development of oral language skills. How they influenced the development of written language skills (reading and writing) in English are discussed in a second volume which is forthcoming. These instructional variables treated in this report were relevant to written language development as well.

1.4. Instructional Features in Bilingual Education

In this research we have tried to examine all those instructional practices that were likely to influence the learning of the language skills needed for school. There were a number of variables differentiating classrooms that were likely to affect language learning. Certain of these variables seemed to us to be especially important.

1.4.1. Language Use

Perhaps the single most important way in which bilingual programs differ instructionally concerns the use of home language and the school language in classroom settings. First of all, there is the question of how the two languages were used for instructional purposes: Which subjects are taught in which language? Are both languages used in a particular class period? We found considerable differences across classes: in some programs, nearly everything was taught in both languages, in others, everything was taught in one

language only--namely, English-- with occasional translations provided in the other language.

The language spoken by teachers constitutes perhaps the most important source of exposure to the target language available to LEP. This was the case whether they were speaking English or the native language of the students. Children acquire the forms and structures associated with mature and formal usage by being exposed to them in the context of use. For these children as for most children, school is the place where the forms of language needed for academic learning and mature communication are modeled and practiced. How well the teacher's language serves as input for language development, however, depends on how it is used. We felt that it was important to look at how teachers in our classrooms used the child's first and second languages. We were interested in the separation vs. non-separation of the two codes, the extent to which each was used for instructional vs. other purposes, the extent to which modifications were made in the use of a language, and the extent of involvement of students in the languages' instructional uses.

Another factor related to language use in the classroom concerns the explicit teaching of the child's second language (the target language). How large a role does instruction in English as a Second Language (ESL) play in the instructional program? Programs vary from having no ESL at all to being almost exclusively devoted to such an approach. What we tried to discover was whether ESL makes a difference, especially in settings where English was also being used as an instructional medium for the teaching of regular school subjects.

Another issue relating to language use in bilingual classrooms has to do with the amount of translation that occurs in the classroom. Some teachers apparently believe that while LEP children should be taught in English, they will not understand anything unless they are able to hear the same material in their first language. These teachers tend to teach in English, but they nearly always provide translational equivalents or explanations of the material in the other language as well. This translation approach can take the form of (a) back-to-back translation, in which the teacher first says something in English and then gives an immediate translational equivalent for it in the other language, or (b) language alternation, in which the other language is used for explanations or expansions of the materials rather than for exact translations. How effective are such approaches? To answer this question, we compared classes in which teachers tended to use language in this manner with classes in which teachers followed the method of teaching lessons directly in English or in the first language while keeping the use of language alternation to a minimum.

1.4.2. Classroom Organization

How lessons are organized can also affect the extent to which they constitute language development opportunities for children with limited proficiency in English. It was therefore important to look at the extent to which student participation was invited in the classroom, the frequency of language-oriented instructional activities, the clarity of instructional tasks, and the amount of time spent on various types of participatory activities.

In addition, there is the question of grouping. How students are grouped can affect the extent to which they have contact with English speakers, the level of instruction they receive, the overall exposure they have to English, and their need to learn it. We examined in particular the different experiences children had in classes that were organized around teacher-directed group activities versus classes that were organized around individualized or self-directed learning activities. Previous research led us to believe that learners in open-type classrooms have to play a much greater role in getting needed exposure to the target language than do those in teacher-directed classes (Wong Fillmore, 1982). In teacher-directed classrooms teachers tend to talk to students in groups more frequently than is the case in open classrooms. As a result, every student in such classrooms receive a certain amount of exposure to the target language, whether or not they are inclined to interact with speakers of the language. Situations in which teachers interact with students, even if it is in groups, can be considered "free" exposure to the target language, in a sense, since students do not have to play much of a role in getting it. In open classrooms, interaction between the teacher and student tends to be one-on-one. Some of this interaction is initiated by the teacher, and so everyone is likely to get a certain amount of exposure to English, but there is a limit on how much such interaction any individual can get. The student plays a major role in getting as much contact with speakers of the language. But not all students find it easy to play their part in such interactions. It takes a lot of social skill to initiate and sustain the kind of interactions which can provide the input needed for language learning.

Some children are more skilled at getting this sort of input (high input generators), while others are not. Hence, some children tend to get more contact than others with teachers and other students who can help them learn the target language.

The importance of classroom organization is particularly obvious in cases where there is a marked imbalance between language learners and students who are proficient speakers of English. In situations where the class is made up of almost entirely limited proficiency speakers of English, the teacher and the aide (if there is one) are likely to be the only sources of second language input. While one-on-one interaction is ideal for language learning purposes, there is only so much of it to go around. Teachers may get around to every student a few times each day, but anyone who needs or wants more practice using the language will have to seek out teachers or classmates who know it, and interact with them. How students manage to learn the target language in such classrooms was another of the questions we raised in examining our data.

1.5. Situational Variables

Another set of variables that we examined was related to situational factors. What type of program was the school engaged in? How supportive were the school and the teachers of the program? How did this affect the practices we are interested in? Did the teachers adhere to the instructional model that the school was committed to?

Another important situational variable had to do with the concentration of NES/LES students in schools and classrooms. This concentration affects the frequency and number of contacts LEP students can have with peer-aged speakers of the target language, which in turn are likely to affect their motivation for speaking and learning English. It is also likely to affect the amount of exposure and practice they get in the target language. The number of NES students presents very special problems to teachers, since such students increase the range of language proficiency levels that have to be dealt with in the class. One of the difficulties connected with teaching limited and non-English speakers is that teachers have to adjust the language they use for instructional purposes in order that it might be appropriately tailored to the special needs of the students. By the third or fourth grade, the need for such adjustments is rather small, since even those students who began school (say in kindergarten or the first grade) with no English are able to understand the language quite well, although they may not speak it fluently. The presence of newcomers to the language (NES students), however, changes the situation. The adjustments that have to be made in order for these students to understand are major -- adjustments that are likely to slow down the instructional process for the students who no longer need that much help. Several of the questions that we posed in examining our data were aimed at assessing the efficacy of instructional practices which deal with the problem of having students at a variety of language proficiency levels within the same class.

1.6. Learner Variables

1.6.1. Age at Introduction to English

In addition to instructional factors and situational variables, we identified a number of learner variables that were likely to interact with instructional practices. The first of these the student's age at the time of introduction to English. The way we attempted to examine the effects of age at introduction to the second language was to include children who were introduced to English at age 5 or 6 (the usual age for entering school) and others who first came into contact with English at the age of 8 or 9 (say, by entering school around the second or third grade). Since we could not study these two groups of children longitudinally up to the same grade level, we focused our attention on children who had had about two or three years of English. Children who began school at about age 5 or 6 would have been in the third grade after two or three years. Those who began at age 8 or 9 would have been in the fifth grade after the same length of time. Thus we studied children in classes at the third and fifth grade levels. However, very few self- contained bilingual classrooms were available for study at grade 5, so the fifth grade data were from just one bilingual and one all-English classroom within each ethnic group. Consequently, these data were used primarily for qualitative analyses that checked on the extent to which results observed in grade 3 are paralleled in grade 5, with subjects whose introduction to English occurred later. In addition, because some of our fifth grade subjects had more or less exposure to English than 2-3 years, we treated them as case-study comparisons of fifth graders who

differed with respect to their ages at the time of introduction to English. A second learner variable we examined in analyzing our data was that of initial proficiency level in English. Although the subjects in the study had had about the same amount of exposure to English at the beginning of the school year, they differed widely in how proficient they were in it. Some were almost as proficient as native speakers in their use and understanding of the language. Others were barely able to make themselves understood, and were clearly had a long way to go before they could be said to be proficient speakers of English. This variable was considered only after we had begun to analyze the data; it turned out to be a critical factor in making sense of the pattern of findings that emerged in this study.

1.6.2. Language Group Membership

The final learner variable was first language and cultural background. The way we approached studying this variable was to select two groups for study that we believed (from previous research) would approach language learning somewhat differently. We therefore compared the effects of instructional practices on the learning of English by Cantonese-speaking Chinese children and by Spanish-speaking children. Previous research (Wong Fillmore,1983) suggests that these two groups differ with respect to how much they turn to adults vs. peer-age speakers for assistance in language learning. There were practical reasons for selecting these groups as well. We had been doing research with children from these backgrounds and had familiarity with these two groups. Furthermore, we had among the members of our research team the linguistic skills needed to study these two

groups.

There are several ways in which the language background of children may affect the learning of a second language. The first has to do with first language interference, a topic which has been studied extensively in adult second language learning. Does the extent to which the learner's first language differ from the new language in form, structure, and use affect the learning of that new language? Our subjects included native Cantonese-speaking and Spanish-speaking children. While there is some evidence of first language interference to be found in the speech of both groups, the amount and seriousness of this interference seems to be about the same for both, so the learner's first language does not appear, at least on the grounds of interference, to warrant a cross-linguistic comparison of these two groups. Nevertheless, the children's first language experience may influence the development of a second language, particularly when it comes to the development of those aspects of language involved in literacy acquisition.

1.6.3. Individual Differences

Research on individual differences in second language acquisition (Wong Fillmore, 1982) has shown that a number of learner characteristics can interact with instructional situation variables to affect the learning outcomes in important ways. One such characteristic is the first language background of the child, which was discussed in terms of ways in which the learner's first language itself might affect the learning of a second language.

While there do not appear to be differences relating to linguistic structure per se, there do appear to be relevant differences between the two groups in sociolinguistic variables, in patterns of language use in which the two linguistic communities differ, and in social and learning behavior. For example, Wong Fillmore and Ervin-Tripp (Wong Fillmore, 1982) have observed rather striking differences among the LEP children they were studying as to whether they were inclined to orient their activities in the classroom around adults or children. While there were differences in degree to be found among them, the Chinese children tended generally to be more concerned with the expectations and opinions of the adults in their world than they were with those of their classmates. They appeared to look more consistently to their teachers and to other adults in the classroom for guidance and support than they did to one another. By contrast, the Mexican-American children in the Wong Fillmore and Ervin-Tripp study appeared far more attuned to their peers socially than they were to adults. While they obviously liked being around their teachers, they seemed to turn more to peers for ideas and direction than to their teachers.

In addition to these broad differences between groups, children in both ethnic groups differed with respect to the extent to which they were outgoing and sociable in interacting with their peers. Children who were more outgoing and sociable obviously tended to spend a lot more time talking to classmates than did children who were more quiet and shy. How do these differences affect language learning? This would seem to depend on whether the group with which the child

interacts uses the target language or not. If the sociable child is interacting with native English speakers, one would predict that language learning would be facilitated, because the child would be constantly exposed to good language models. If the outgoing child is interacting with non-native speakers, one would predict that language learning would not be helped, because there would be little incentive or opportunity to learn English. In situations where these sociable children might use English in their interactions with other limited English speakers, they would be practicing an imperfect learner's version of the language, features of which are likely to become permanent parts of their language system.

Social differences of this nature have been the focus of a series of child observations that were also conducted in the classroom in connection with this study. Our aim in this regard has been to establish just how individual and group differences of a social nature interact with instructional variables related to the instructional programs to which our subjects have been exposed in school.

Research in second language learning has also indicated that learning style differences in children may also influence their speed and success in the learning of a new language. In this study, we have adapted three measures of cognitive style to study the possible effects of learning style differences in our subjects. The measures we have selected for use in this study focus on the following learner characteristics: (1) ideational fluency, (2) ability to use context, and (3) propensity to take risks. Two of the the three characteristics (ideational fluency and the ability to use contextual

information) have previously been examined in Wong Fillmore and Ervin-Tripp's study of individual differences on second language learning, and the indications are that they are particularly important. In both studies, ideational fluency was measured by a task that requires children to think of, for example, a variety of uses for everyday objects. In the present study, use of context was measured by a modified version of Werner and Kaplan's Words in Context task, where the child guesses the meaning of a made-up word on the basis of hearing it presented in five different sentence contexts. Three items were presented to each child in English and three items were presented in the child's first language (Cantonese or Spanish). The risk-taking task, adapted from one developed by Block & Block (1981) involves the measurement of the time and number of trials a child takes before guessing the color of marbles he thinks are more numerous in a container whose contents are hidden from view. He is allowed to look at as many trial samples of one marble as he wishes (returning each to the container), until he feels he can make up his mind. The certainty with which he makes his final guess is also measured. The instructions and sample items for all three measures were translated into Spanish and Cantonese so that our subjects would be clear about the nature of the tasks, irrespective of their current level of knowledge of English. Students were themselves allowed to choose the language in which this information was presented to them.

Finally, there was the question of family background. What effect do the educational level of the parents, the amount of exposure to English that the child has in the home and neighborhood, and fam-

ily attitudes toward schooling and the use of the new language have on the child's continuing development in the target language? To determine the extent to which family differences influence language learning and school performance, we conducted extensive interviews with the families of our subjects.

1.7. Language Skills Needed for School

One of the critical issues in our research concerned the nature of the language skills that students need to have in order to participate in instructional activities conducted in their classrooms. We believe that linguistic competence in the literate person is made up of different kinds and layers of skills. It is too often assumed that language ability is a single, all-purpose skill, and that students who know a language well enough to function reasonably well in everyday social situations also know it well enough to function competently in the classroom.

As Cummins (1979) and other theorists have pointed out, the language skills needed for complex cognitive activities such as those involved in literacy, are importantly different from those skills that enable individuals to participate in informal social interaction. The kind of language used in ordinary social discourse has been described as "situated" or "context-embedded." The situation in which the speech is produced and in which the participants are themselves engaged provides a variety of cues to support the interpretation of the linguistic part of the activity. This contrasts sharply with the

language of textbooks or the instructional language that goes along with the use of textbook material. Such language has been described as "decontextualized"; it is language that is not situated in a social context or a definite setting, but that can only be understood with reference to linguistic conventions and textual information. In point of fact, it is not decontextualized--since any text provides a context for its own interpretation. The kinds of cues that texts provide for interpretation are linguistic and textual ones, however; they tell the reader what aspects of his linguistic, social, real world, cultural, or topical knowledge must be applied to the reading of the text in order to interpret it.

The point is that the "decontextualized" language that typifies much classroom activity needs to be evaluated in a different manner from the way in which one assesses more colloquial language skills. Few of the language assessment instruments that are available commercially are sensitive to this distinction, we believe. For this reason we devised our own language measurement procedures that focused specifically on assessing the extent to which students were able to deal with the kind of language used by teachers in formal instructional activities and by textbook writers in the preparation of instructional materials. Both our reading and writing measures, as well as our measures for assessing oral language skills, were devised to give us an indication of how well the individual child is acquiring target language skills of the type that are needed for school. These measures are described in greater detail in the fourth chapter of this report.

CHAPTER 2

GENERAL CHARACTERISTICS OF STUDY SITES

2.1. The Social and Political Context of the Study

The study was conducted entirely in California, all of the research sites being in the greater San Francisco Bay Area, and within 2 hours drive of the Berkeley campus of the University of California. The region is unique in its linguistic and ethnic diversity, with school districts in its urban centers reporting as many as 50 to 70 different ethno-linguistic subgroups within their student populations. At the same time, this area is not unrepresentative of other places with large concentrations of language different groups.

The various subgroups in the area tend to live in specific neighborhoods or sections of town in their own communities, and whether by choice or because of circumstances such as the availability of affordable housing, these neighborhoods are pretty much segregated ones, with at most, one or two other ethnic minority group living in close proximity. Because of such residential patterns, one finds children of these groups concentrated in particular schools in each city, rather than integrated throughout that district's schools.

Spanish-speakers comprise the largest linguistic subgroup in the region (1980 Census figures), as elsewhere in the country. In California they comprise 19% of the total population, a proportion that seems to be growing. They live throughout the region in both its

urban and rural communities. Asians make up the second largest subgroup, with Chinese the largest in number among them. They are smaller in overall numbers than the Hispanic group, but because they are largely concentrated in the two large urban centers in the area, their communities are in many respects as prominent as are the Hispanic sectors. Spanish-speakers in the area originate largely from Mexico, although those residing in San Francisco are from all parts of Latin America. The Chinese are largely from the Canton region of China, with a good many of them having come to the United States in recent years via a long stay in Hong Kong. Among the more recent arrived members of this group are many who came as refugees from Southeast Asia.

The schools in the Bay Area are familiar with the special educational needs of ethnically and linguistically different students. Indeed, they have been centrally involved in many of the most important recent developments affecting educational policies that concern language minority students in this country. The Supreme Court decision in the Lau v. Nichols case establishing the right of LEP students to special instructional assistance with the language of school involved the San Francisco School District. As a result, the basis for the so-called "Lau Remedies" which have served as guidelines to be followed throughout the country was the agreement which was struck between the U.S. Office of Civil Rights and the District as to what would be appropriate remedies in the case. These remedies, as we see, called for bilingual instruction wherever LEP students attend school. The districts in this region have been in the forefront in the

development of bilingual education programs, with the first ones established immediately after the passage of federal legislation providing funds for such programs in 1968. Educators in this area have also been involved in getting state legislation passed which provides for the most comprehensive bilingual education programs in the country (the Chacon-Moscone Bilingual Education Act, A.B. 1329, 1976.)

The San Francisco Unified School District has developed educational centers which serve newly arrived LEP students, and these have served as models for other districts in the state and in other parts of the country. At these educational centers, newcomers are given intensive instruction in English along with instructional support in their native languages for a year or two to facilitate their adjustment to the American classroom. Then these students are placed in bilingual classes where they are available in the students' native languages, and where they are not available (not surprising since there are students from some 70 different linguistic groups represented in the District's schools), they are placed in schools where they receive additional instruction for a time in English as a second language.

There have been large bilingual programs for the two target subject groups involved in this study in the two large urban areas since 1969, and for Spanish speakers in the rural areas for the past 5 or 6 years since the passage of state legislation mandating bilingual education for LEP students. But while the schools in the region have long been involved in dealing with the educational needs of their linguistically and culturally diverse student populations, and while

they have been progressive in developing instructional programs for these students, they have also been particularly sensitive to political and economic changes which have, in the past several years affected public support for programs designed to address the special needs of these groups. In California as throughout the country, the schools have been subjected to an intense public examination of educational policies relating to LEP students. There has been in the past several years, an increased concern expressed in the media and in various public forums over the aims of educational programs serving these students. The concern is that instructional programs that make use of languages other than English may be promoting language divisions in the society, and may, in fact, be instrumental in allowing LEP students to avoid learning English and to remain linguistically unassimilated. As a result, there has been an increased pressure on the schools to demonstrate that whatever is being done programmatically for LEP students, they will result in their learning enough English to make an expeditious and successful transitional into the all-English programs. In the past several years, then, the emphasis has shifted sometimes subtly, and at other times not so subtly, from providing bilingual instruction for LEP students in many of the area's schools to providing them with the linguistic means to make a rapid transition into all English classes.

In the four districts where we conducted the study, the effects of the pressures noted above were to be seen everywhere, if one was familiar enough with the situation to evaluate it. We found a growing reluctance on the part of all but the most committed teachers in bil-

ingual classes to use the native language of the students for instructional purposes. In selecting sites, we experienced considerable difficulty finding bilingual classes meeting our selection requirements, and in which teachers were doing much subject matter instruction in the students' L1's. This is not to say that the students' first languages were not used at all in the classrooms; they were, but not as much as we had hoped to find for instructional purposes. Often, it was the case that the teachers in such classes used English exclusively for instruction, and the students' native language only in informal interactions. Another common pattern was that if a language other than English was used at all, it was used by the Teacher's Aide in tutoring only the students who were the most limited in English proficiency.

Entry-exit practices also reflect the changing situations in the schools. A key consideration in our site selection was that there be, in each of our research classrooms, a sufficiently large set of students who had been in the program continuously for 2 to 3 years. But the entry and exit practices were such that as students learned enough English to survive in all-English classrooms, they were mainstreamed, these being replaced by children who, because they were recently arrived in the schools, were more limited in their English skills than their classmates. Hence, many of the classrooms that might have been suitable choices as study sites could not be selected since they did not have sufficiently large numbers of students in them who met our criteria as subjects. We could not have gotten a very representative picture of the effects of the instructional practices followed in such

classes, since the children who are the most successful in learning the language of school are no longer in those classes, and those who remain have not been there long enough to reveal the effects of the practices by which they are being taught.

The emphasis on English rather than on native language instructional support in bilingual programs has meant that in many places, the native language is used mainly to facilitate the delivery of English instruction, and not, as we might hope, for the direct instruction of subject matter. As a consequence, we have found that it was sometimes difficult to distinguish bilingual classes from all-English ones in many of the schools we visited during the site selection period. This, despite the fact that by state law, such programs are required to offer at least some subject matter instruction in the native languages of the LEP students. While the schools generally comply with the letter of the law in having classes which are designated as "bilingual", in practice, such classes vary as to how bilingual they really are, and in what form the native language instruction takes. Much it seems, depends on how much support there is for bilingual education in the larger community. The state law requires that teachers in such classes be bilingual, bicultural and certified to teach in bilingual programs, but in practice, many bilingual classes are taught by teachers who meet none of these requirements. A waiver provision in the law permits teachers who do not meet qualifications for service as bilingual teachers to serve in bilingual classrooms for as long as two years, provided they make some efforts to get certification. However, few of the teachers who lack the language

skills needed for teaching in bilingual programs are likely to acquire them at the level needed to teach in school in two years. One finds in some bilingual classes, teachers who do not know the first language of the students well enough to offer them any instructional support in that language, no matter how willing they are to do so. In some cases, teachers know the language, but do not use it for instructional purposes because they do not believe it is a good idea. Indeed, some of teachers of bilingual classes we visited, and whom we interviewed in our site selection period admitted that they were opposed to bilingual instruction, and felt it was a mistake to encourage the use of the students' language in school. These teachers reported that they taught only in English, and our observations confirmed this. One might wonder whether these classes should be called bilingual at all, since they were only by virtue of the students' language skills. Such classes are bilingual in name only.

The public scrutiny on how the schools are dealing with the instructional needs of LEP students have placed considerable pressure on even the most committed bilingual teachers, and this pressure has affected the bilingual effort considerably over the several years that we have been engaged in this study. In all but two of our bilingual sites, the only subject that was taught in the students' L1's has been L1 reading. The emphasis on English can be seen most clearly in the fact that in most districts in the state of California, the academic progress of the students in bilingual programs as in all other programs is assessed in English. Hence, teachers feel they must stress subject matter instruction in English, and even when LEP students in

these programs do not know English well enough to understand or to use that language in the classroom, they are being instructed primarily in that language. In our selection of sites, then, we have had to try to find classes which, if they are not ideal examples of the programs we are interested in, are representative of classes in which students of the two target subject groups find themselves in this area.

2.2. The Districts

Four school districts in the San Francisco Bay Area participated in the study. Two are large urban districts, the other two are small rural or semi-rural districts. The Cantonese study sites were drawn exclusively from the two urban districts, since the Chinese in the area are concentrated in the two communities covered by these districts. The Hispanic sites were drawn from one of the two urban districts, and from the two rural ones. What these districts were like, the number of schools involved in the study from each district, the target group studied at each of the sites, and the concentration of that target group district- wide are as follows:

DISTRICTS	TYPE	TARGET GROUP	% GRP/ DIST	SCHOOLS
District A	rural	Hispanic	12%	School #1
District B	rural	Hispanic	40%	School #2
District C	urban	Hispanic	11%	Schools #3,4,5
		Chinese	12%	Schools #5,6
District D	urban	Chinese	35% (Asian)	Schools #7,8

The rural sites were included in order to make the Hispanic classes more representative of the schools serving Spanish-speaking students

in California. As noted above, the Hispanic population in California as in other states reside in both urban and rural areas.

The four districts differ considerably in their makeup, as might be expected. The two urban districts are very large (one has 72 elementary schools, the other has 62); the two rural districts are much smaller (District A has 6 elementary schools, District B has 15). They differ, too, in the ethnic diversity of the student population they serve. The two urban districts have students from a great variety of ethnic and linguistic backgrounds. District supplied language census figures indicate from 50 to 70 more-or-less different languages spoken in the homes of the students, according to parental report. (Such figures are difficult to interpret since the Districts simply count up the different language designations reported by parents. Parent reports are notoriously unreliable, however, since there is considerable variation in what people call particular varieties of language, and in how they spell the Anglicized names of these varieties. Hence, one sometimes finds in school district supplied lists of "home languages" as reported by parents, more than one reference to the same language (e.g., Taishan, Hoisan, Sze-Yip, Cantonese, and Chinese may designate the same variety--namely, the dialect of Chinese spoken in the Taishan district of the Canton province in China). At other times, the same name can be be used to refer to a variety of quite distinct languages or dialects (e.g., The general label "Chinese" is often used to refer to any of the various languages or dialects spoken by Chinese people although there are substantial differences among the languages spoken. Varieties such as

Taishanese, Cantonese, Mandarin, and Shanghainese are not mutually intelligible, but are nevertheless often counted as one language.)

The two smaller districts have much less linguistic and cultural diversity represented among the student population. The largest minority group in these two districts is the Hispanic; note that in District B, 40% of the students in the district's schools are Hispanic.

The large minority group population in these districts have generally kept their enrollments up, despite the trend in the area for a decline in school enrollment. In the two urban districts, the steady enrollment has been due in large part to the continual influx of new immigrants and refugees. In the past few years, the proportion of majority group students has declined in both districts, due to families moving out to the surrounding suburban communities, and because of a general decline in family size among this group. In adjacent districts, a number of schools have had to be closed each year because of declining enrollments, but in these two districts, there has been no shortage of students.

Both of the urban districts have had a dramatic increase in the number of Asian students enrolled in their schools recently, due in large part to the influx of Southeast Asian refugees into the area in the last few years. In District D, as shown above, some 35% of the school population is now Asian/Pacific, with Chinese students being the largest subgroup. The district also has many Hispanic students, many of whom are limited in English language skills.

District C likewise has sizable enrollments of Asian and Hispanic students. In the past, the Hispanic group was larger than the Asian in this district, but the Asians now outnumber the Hispanic slightly (12% Asian, 11% Hispanic). There are some differences, however, in how the two groups are distributed in the district. The Hispanic students are found in fairly sizable number in 8 of the district's elementary schools. The Asian students are concentrated at 3 elementary schools. This of course reflects the residential patterns of the two groups, since most of the schools in this district serve the students who live in the neighborhoods in which they are located.

As can be gathered from this discussion, Hispanic students are well represented in all four districts, but there are differences to be found among them across the districts. The most rural of the two districts (A and B) described here as "rural districts", is District B. The community it serves consists of a small town with a population of about 25,000, and the surrounding rural area which is part of a major agricultural region. In contrast, the community served by District A, while also a small town (population, 40,000) in the same region, is a popular seaside resort town in which a campus of the University of California is located. As one might expect, the Hispanic population in these two communities are somewhat different. In the community served by District B, many of the Hispanic families are recent arrivals from Mexico. A sizable proportion of the Hispanic families are engaged in agricultural work--the most recently arrived members of this group are involved in field work, the more settled ones are likely to have jobs in the canneries and in other types of

food-processing plants located in the area. The Hispanic families in the community served by District A are slightly more established, although there are families who are fairly recent arrivals in this community too. While many of the members of this community are still engaged in agricultural work, most are employed in canneries and in other types of farm work rather than in actual field work.

The Hispanic families residing in the community served by District C are similar to those found in the two rural communities in that they came originally from Mexico, and many of them have been involved in farm work. These families are generally more established, however, although there is a sizable number who have only recently come to the area from Mexico. The recent arrivals however, generally have relatives among the long-time residents of this community. Few of these families are engaged in farm work since there are precious few farms in the immediate area. Instead, many of the families are engaged in blue collar jobs or service-type jobs in the community.

The Hispanic families residing in the community served by District D are very different from those in the other three communities. The families in this community are from all parts of Latin America and the Caribbean region rather than from Mexico, although there are families that originate from Mexico as well. There are, among these families, many refugees and immigrants from Latin American countries that have been subjected to political and economic upheavals in recent years; there are Cubans, Chileans, Guatemalans, Panamanians, Salvadorians, Columbians, and so forth. Many of these families were members of the middle-class in their home countries; they are educated

and many of them are professionals. Hence there is much greater cultural, social and educational diversity to be found among them than among the Mexican families found in the other three communities. No Hispanic classes were drawn from this district, because of these differences.

The four districts each had a strong commitment to bilingual education and each had had bilingual programs for at least five years. Because of the way the study was designed, we had to find schools in which there were sufficiently large numbers of students in each of the target classrooms who had begun school with little or no English, two to three years earlier, and who had been in the same kind of program (all-English or bilingual) continuously since they first entered school. That meant that the districts we selected had to have entry and exit policies that permitted children to remain in whatever type of program they were attending for at least 3 to 4 years. As pointed out in the previous section, some districts limit the participation of LEP students in bilingual or ESL type programs to a short period of time, the main programmatic goal being to mainstream these students as soon as they learn enough English to survive in all-English classes. Programs in those districts would not have allowed us to study the long term effects of the instructional practices we are examining in this study. Districts differ in their entry-exit criteria since by state law (AB 507, Chapter 1339, Statute of 1980), such criteria are set by the districts following guidelines established by the California State Board of Education.

The bilingual programs in the participating districts are largely transitional in the final analysis. None of the children in the study's bilingual classes are likely to remain in bilingual programs through high school. But they vary in just how long they can expect to stay in such programs, this depending in part on the district's entry-exit policies, and in part on the availability of space at each level of the program. Because of the large number of students needing linguistic help in school, especially in the two urban districts, and because of ever-shrinking resources, few of the children now receiving bilingual instructional assistance can expect to continue getting help for long. Most of them will be transitioned out after the 6th grade, if not before then.

2.3. The Schools

The 17 classes that represent the 16 research sites were located in 8 elementary schools drawn from the four participating districts. During the site selection process that was carried out in the winter and spring preceding the study year, some 60 classes in 16 schools were visited. The study classes were selected from the many we considered, because they, better than those that were not chosen, fit our selection criteria, and because the teachers and administrators were willing to participate in the research.

The schools from which the study classes were selected were all "Title I" schools, a fair indication of the socio-economic level of a substantial segment of the families served by each school. Only one of these schools had a discernible non-minority group enrollment, the

school here designated as School #1, which is located in the semi-rural community served by "District A". The other schools had near total "minority group" enrollments.

Each of the 8 schools will be characterized here, to provide the reader with a picture of the situational differences that existed across the research sites.

School #1: This is the school mentioned above as being the only one in the study sample with a discernible majority group enrollment. These majority group students were largely from middle class families, and lived in the neighborhood in which the school was located. The neighborhood is an older one in this seaside community, which is a popular California resort town. The school has a K-6 bilingual program to serve the the limited English speakers among its Hispanic students who comprise about 35% of its enrollment. Not all of the Hispanic students who were in need of the program were enrolled in it however, since there were more students who were eligible for bilingual services than there was space in the program. At the same time, not all of the students in the bilingual classes were Hispanic since it is against the district's policies to have segregated classes. Hence, in each of the bilingual classes in this school, there were English monolingual majority group students who could serve as a potential source of English input for the Hispanic students who were limited in English skills, and there were in some of the all-English classes in the school, Hispanic children who were much like the Hispanic students in the bilingual classes. But while the two groups were integrated in the bilingual classes as they were in the

rest of the school's classes, they did not actually interact much, as our observations seemed to show. The two groups coexisted quite peacefully, but the cultural and linguistic differences between these groups seemed to keep them apart.

The "Anglo" students in the bilingual classes were there because their parents had voluntarily placed them in the program, an indication that at least their parents were interested in having them integrated with the Hispanic students, and in having them learn Spanish. Indeed, these student received about an hour of instruction in Spanish each day, this consisting largely of explicit language instruction, involving pattern practice and vocabulary drills. But while these students were eager enough participants in the language lessons, and in the other instructional activities that were carried out during the school day, they were pretty much segregated from the Hispanic students not only socially, which was by choice, but instructionally as well. In the bilingual fifth grade class which was one of the three classes included in the study sample, the Anglo students were grouped separately for instruction for much of the day. While they were receiving Spanish as a second language instruction, the Hispanic students were receiving language arts instruction in English, this instruction being especially geared to the needs of non-native speakers of English. Of necessity, the Hispanic students received their English reading instruction apart from the Anglo students since they were, due in part to language differences, reading at lower levels generally than the Anglo students.

The self-imposed social segregation was in no way unfriendly, it seemed to us, but at the same time it was quite apparent. Students of each group tended to socialize only with members of their own group, both in the brief free encounters that took place within the classroom, and during the recess and lunchbreaks. The two groups dressed, in fact, in distinctly different modes-- not a small indicator of the social differences between them. By the fifth grade, dress becomes an important mark of social group identification, with each group having a distinctive kind of "in-group uniform". The uniform for the Anglo girls, was a preteen version of California surfer-preppy garb: For the girls, sweat bands holding "Farrah- Fawçett-styled" hair in place, alligator-emblazoned polo shirts, designer-jeans, and knit leg-warmers (even on the warmest days) over the trouser legs. For the boys, the favored costume included striped soccer shirts, jeans, down-vests, and name-brand running shoes. The look for the Hispanic students was in sharp contrast to that of the Anglo students: Long flowing hair for the girls, longish but not long hair with modified duck-tails for the boys. The uniform for girls and boys alike was a black uni-sex poplin jacket, white T-shirt, and black jeans. The girls, however, favored black cloth Chinese Kung-Fu-type slippers, while the boys favored carefully shined ankle-height boots with slightly raised heels.

During class breaks and lunch period, the students generally headed off in different directions to congregate in their favored places on the school grounds. Thus, while there were English speaking peers present in the school and in the classrooms attended by the Hispanic classrooms, there was, from our observation, little direct

help in learning English that resulted from these students being in the same classes.

There were two other classes involved in the study that were drawn from this school. These were two third grade classes which comprised one of our all-English study classes. As mentioned above there were Hispanic children at each grade level who would have been been in a bilingual class had there been one at the school. These children were distributed among the several third grade all-English classes in the school. We selected the two with the largest number of students meeting our subject selection criteria to be included in the study as an all-English study site.

In these classes, the majority group students outnumbered the Hispanic students, as the demographic information provided below will show. Unlike the fifth grade students who were near-adolescents, these third graders did not seem to segregate themselves as completely on the social level, and they were far better integrated instructionally as well. In one of the classes, the instructional program was largely organized around individualized materials, which the students worked on at their tables by individual assignment. Since these tables were generally integrated, the children found themselves sitting and working together much of the day despite fact that they were working at different levels, and sometimes on quite different materials. For brief periods each day, the Hispanic children were separated off for directed instruction provided by the teacher-aide who tutored them in reading or in language arts. In this class as in the other third grade class in this school, the Hispanic children and Anglo

children sometimes played together in the school yard during class breaks, although there was a general inclination for them to stay with their own groups.

School #2: This school was in the other rural district, the one designated above as "District B". There were differences between the two schools, the main one being that while located in the same general area, the community that it served was clearly a rural one. The great majority of the children in this school were Hispanic-- generally from Mexico, and mostly from families that have not been in this country for long. The families served by this school, Hispanic and Anglo alike are largely engaged in farm work, and indeed the school was located several miles from town, right in the midst of fields and orchards. There was a large and thriving bilingual education program at this school, and there was no shortage of children in need of such instructional assistance as could be provided by the program. In fact, the school was very much a bilingual school, although not every class was a part of the program. Because the Hispanic families served by this school were relatively recent immigrants, and because they were engaged in farm work, there was considerable transience among the students enrolled in this school, although it was not as great as we have found among the Hispanic students in one of our urban schools. The teachers at this school reported that the Christmas break sometimes stretched well into the spring for children from the more recently arrived families, who apparently with strong familial ties in Mexico. During the Christmas break, which is an off-season for farm work in the area, the families travel back to Mexico for prolonged

visits which last until work is available again in the fields.

At this school, we had one study class only, a third grade bilingual class. There were Anglo children in the class off and on throughout the school day. The instructional program was team-taught, however, with children moving between the various classrooms involved in the program for instruction in different subject areas. The Hispanic children, because they were receiving a part of their subject matter instruction in Spanish, tended to be segregated for instructional purposes for much of the day. The Hispanic children sometimes interacted socially with the few Anglos in their classes, but it was infrequent, owing partly to the language differences that precluded easy interaction, and partly to the way their instructional programs were structured. At any rate, the children generally stayed within their own groups when they were out on the playground during recesses and lunchbreaks.

Schools #3 & #4: These were two of the schools in the urban district which has been here designated as "District C". These two schools are located in different parts of town where Hispanic and Black neighborhoods adjoin and become one. The students served by the two schools, until recently, have come from these two groups almost exclusively. In the past several years, Indo-Chinese refugee families have moved into both areas, and hence there are now some Asian children there but the student population is still predominately black and Hispanic in both schools. The two schools are alike in many respects, but different in others. There were relatively strong bilingual programs in both schools, but whereas the program is fairly well

integrated into the life of one of the schools, it is the center of considerable controversy at the other. At this latter school, from which we drew one of our bilingual study classes, there has been open resentment expressed by the non-bilingual teaching staff over what is perceived to be preferential treatment given to the Hispanic students in the school. Since this is a Title I school, there are special programs available for all of the students, but for reasons that are quite complex, the teachers have come to see the bilingual programs as being on the receiving end of perhaps more services and attention than seems fair to them. At any rate, there were several hostile confrontations between the two communities that developed during the study year when some members of the non-bilingual teaching staff at the school registered complaints to the District administrators that preferential treatment was being given to the "bilinguals" at the school--namely, to the students and teachers involved in the bilingual program. These complaints to the District administrators were investigated, and were found to be unjustified, but they provided evidence there are rather consider social problems that exist between the two communities, at least at the level of the teachers who deal with the educational needs of the children, and that the hostilities that have surfaced between the groups are now being focused on the bilingual programs.

When these problems surfaced, the Hispanic community rallied to the support of the bilingual program staff, and of the principal who, although not Hispanic (he happens to be Black), has been extremely supportive of bilingual education at his school. This show of paren-

tal support for the program helped to quiet some of the difficulty at school, but it did not resolve the problems which apparently still exist below the surface in the school.

Such problems have largely been avoided at School #4, although the same potential for hostility exists there. At this school, the principal has exercised considerable care in insuring that the bilingual program is well-integrated into the larger school, and has, even to the physical housing of the program, kept the program from being seen as a separate entity in the school. There is, in this school, only one bilingual class at each grade level, although there are many more students at each level who also qualify for participation in the bilingual program. The overflow children are placed in all-English classrooms, and hence virtually all of the teachers in the school have had to be involved in the education of Hispanic students who have problems dealing with the language of school, and hence have an interest in what goes on in the bilingual programs. At this school, we had both bilingual (third grade) and all-English (third and fifth grades) study classes.

There are many Hispanic families that qualify as longtime residents of the neighborhoods surrounding both schools. The children in the study, however, are from more recently arrived families since one of our criteria for participation as subjects was that they should have started school as non-English or very limited English speakers. Some of these families were formerly engaged in farm work, but few Hispanic families settle in an urban area such as the one served by District C directly from rural areas. The typical pattern is for a

family to do it in several steps, the first being a move into town (from farm housing) in a rural or semi-rural community, the next being a move into a barrio of a small urban area, and then finally, into a barrio of a large urban area such as the one in which these schools were located.

Some of the families in these neighborhoods are no doubt "undocumented aliens", although this is speculation on our part. We found reason for believing that this may be the case, however on the day of a well-publicized crackdown by "la migra", the U.S. Immigration and Naturalization Service. For a while after the big sweep through the barrio, many children were conspicuously absent from school. Some families took small vacations away from home during that period, others were given trips to Mexico by the government. Within a month, however, things were back to normal, and the children were hard at work in school once again. There was considerable transiency in both of this school, but it was nothing compared to the situation at the third school in District C, from which we drew one of our Hispanic study classes.

School #5: This school was an especially interesting one, since it contained in microcosm, all of the problems found in the inner-city schools of District C. The school is located right at the cusp of three adjoining ethnic neighborhoods--Black, Hispanic and Chinese. Until rather recently, the district was almost exclusively Black in its ethnic makeup. Hence the students who attended School #5 were mostly black children: until 5 years ago, the student population at this school was 90% black. Then the Hispanic families began moving

into the black neighborhoods, since the rentals in this area were somewhat less expensive than in the other parts of town. One of the factors that made it possible for the Hispanic families to find housing here was the high rate of transiency among the Black families. The school reported that during one record-breaking period, there was a turn-over rate of 80% as families moved in and out of the school's attendance area. As families moved out, the houses or apartments became available for rental, and in time Hispanic families had displaced about a fourth of the Black families in the area. At least the population in the school shifted from 90% black, 10% "other" to about 65% black, 25% Hispanic, and 10% others a few years ago. At that time, a bilingual program was established in the school to serve the Hispanic students who were in need of the instructional assistance such programs provide for limited English speakers.

Another major change began to take place three years ago with the massive influx of Southeast Asian refugees. The Chinatown area which adjoins the Black district has been the favored residential area for these newcomers, since many of them are ethnic Chinese. However, the area is quite overcrowded, and there is a severe shortage of inexpensive housing. In fact, it is nearly impossible to find available and affordable apartments or houses there, since once a family finds something, they are not likely to leave it. Hence, with the steady influx of newcomers, it was inevitable that these Asian families should be looking for housing in the neighborhoods in the border area between the black and Asian sections of town. And with the inclination of the Black families to move around, there was the possibility of finding

vacancies in the apartment buildings in the border area. Hence, each time a Black family moved from an apartment, it was replaced by an Asian family. In very short time (two years only), the population of the formerly black neighborhoods has shifted, and become largely Asian. Nowhere is this more apparent than in School #5. Where just a few years ago, the school had been one with a mostly Black student population, it is now only 30% black, 20% Hispanic, and 50% Asian. And nearly every day, new families arrive at the school, hoping to register their children. Most of these newcomers are Asians, but there have been a few other groups as well. One of the more unusual ones has been a rather large number of Tigrinyan-speaking children, refugees from Ethiopia whose families have been recently resettled in the area under the auspices of a United Nations agency. As a result, the school has been bulging with an over-capacity enrollment. It was built for a top capacity of 800 students; at last count there were 1110 students in its classrooms. In fact, every available inch of space in the school has been pressed into service as classroom space. One finds classes meeting in the hallways, in the teacher's lunchroom, and in every broom closet. Finding space in which we might test the subjects from the two study classrooms proved to be a massive exercise in ingenuity for the members of the research team working in that school, especially so since there was at least one other research project studying classes in the school during the year we were there.

A solution for the space problem at School #5 was found recently when the District decided to turn it into a year-around school, with a quarter of the children "on leave" during each period of the school

year.

The social problems that arose when the school began to change in its student population have not been resolved as easily, however. Problems similar to those at School #3 have been observed in the past two years, when the changes in the school became apparent to the staff there. Some of the teachers at the school expressed considerable distress at having to adjust to the needs of a totally different student population. There has been resentment expressed by parents of the Black students in the school, and by their teachers over the cost of the special programs that the district has had to provide for these newcomers because of their language problems. The argument has been that these programs are drawing off resources that should be spent on the education of all of the children in the school; once again, the fairness issue. Here, as at School #3, the issue that seems to be at the heart of the intergroup conflict has been that of equal treatment or fairness in the allocation of resources. But one suspects that the real issues are deeper--they have to do with fear of cultural differences, and of language differences.

There are Black children in all of the bilingual classes, placed there for the purposes of integration. There have been objections to this practice, however. Some of the parents of the Black children have complained that their children are not getting as much out of school as they would in all-English classes. The fear is that because some of the instruction in bilingual classes is conducted in languages other than English, their children will be learning less than they should in school. One irate parent actually sat in his son's

bilingual classroom and recorded each instance of Spanish used by the teacher during the course of a school day in order to establish just how much instruction his son was missing because it was given in a language he did not understand.

The social and cultural differences that have created these conflicts among the adults in the school community have prevented the formation of close relationships among the children too, it seems. All of the classes in the school are integrated, as noted above; that is, there were in all of the bilingual classes in the school (we were in two third grade bilingual classes, one of them Chinese, the other Hispanic) both target group (Chinese or Hispanic) and non-target group students (Blacks or "others"). But while the groups were in the same classrooms, there was little interaction between them. This was especially apparent in the Chinese classes, where the language and cultural barriers between the groups seemed to be insurmountable. In addition to the difficulties these children had in trying to communicate across groups stemming from their not having a language in common, there were also enormous social and interactional style differences that kept them apart. Although the children were seated side by side in the same classrooms, there was virtually no socializing between the two groups. The children talked only to members of their own group, and pretty much ignored the others. This was especially apparent in the Chinese classes, but it was true also of the Hispanic classes. Out in the playground, one sometimes observed some intergroup play, but by and large, the children stayed in their own groups.

School #6: This school was located right in the heart of the city's Chinatown about a half mile from School #5. Unlike School #5, however, with its ethnically mixed student body, this one had Asian students almost exclusively. Most of the children enrolled here were Chinese, but there were also Vietnamese, Cambodians and other Southeast Asian Students. The non-Asians were few and far between--a Mexican child here, a couple of Black children there, and a trace of other groups here and there. The predominant group was the Chinese, here at school and in the neighborhoods that surrounded the school. There was a Chinese community center on the grounds adjoining the school grounds. The commercial district with its busy Chinese markets, restaurants, shops, and sewing factories was located just two blocks beyond the schoolyard. Many of the parents of the children worked here in the many small shops and businesses. Many of them were fairly recent immigrants, and while they were generally a little more established than the parents of the children at School #5, they shared much the same background. Some of them had immigrated to the United States from China by way of Hong Kong. Unlike the earlier immigrants (pre-1967) who spoke the various sze-yip regional dialects of Cantonese, these immigrants generally speak sam-yip dialects, of which the Kwangchow dialect of Hong Kong was the major one. Sizable numbers of residents in this city came as refugees from Southeast Asia. A great many of these are ethnic Chinese, but there are Vietnamese, Cambodians, Laotians, Thais and Burmese, too.

The school itself was almost idyllic in its peacefulness. One seldom saw fights in the school yard, and if children had to be sent

to the office for any reason, it was usually for "talking too much" rather than for fighting, or for disobedience. Among the teachers in this district, School #6 was regarded as "easy duty", despite the fact that many of its students had language problems. Language problems notwithstanding, these children were generally very good students--they worked hard, were cooperative, and were kind to teachers. In short, they were eager students, and they seldom caused trouble; hence they were easy to work with.

In this school there was a fairly active bilingual program, but it was in no way big enough to serve all of the many children in the school who were eligible to be in it. The school had only one bilingual class at each grade level, from kindergarten through the sixth grade. There were at least 3 additional classes for each grade level which were not bilingual.

Children were generally placed in bilingual or all-English classes at the kindergarten level, more or less on a first- come-first-served basis. Usually, only the most limited English speakers were placed in the bilingual program, although if parents insisted, their children might get in, provided there was space. As a result, the bilingual classes at this school generally had a higher concentration of limited English speakers than elsewhere in the District. The third grade bilingual class from this school was involved in the study, as were two of the three all-English third grade classes.

The principal of the school was not a supporter of bilingual education, and has said he thinks children should not remain in such

classes for more than a year or two at most. In his view, placement in bilingual classes should be reserved for just those students who are the most limited in English, and it should be regarded as temporary. According to the principal, the proper aim of these classes is to teach the LEP students English as quickly as possible, and they should be transitioned out of them as soon as they gain survival skills in that language.

The principal is not alone in these views. A number of the teachers who are not involved in the bilingual program in the school have voiced essentially the same sentiments. The issue of bilingual education has been particularly troublesome at this school. The site administration of the school has kept the program size down to one bilingual class at each level, despite the growing need for more such classes at all levels. There have been efforts, in fact, to reduce the program in the school from its present size. Several years ago, parents who supported the program forced a confrontation with the school's administrative staff over the issue of whether the program should be continued at the school in its present form and size. The parents on the school's advisory committee refused to endorse its consolidated application (which secures funds from the state for a variety of educational programs) unless the bilingual program was included in the plan.

The parents in the school are generally quite supportive of the bilingual program. Indeed, most of them believe in bilingual education, whether their children are in the school's program or not. As might be expected, the great majority of the children classified as

LEP students in the school are not enrolled in the bilingual program, since, as was mentioned earlier, the need for such instructional services far exceeded the available space at each level. But this did not mean that they did not get bilingual education, since Chinese parents are not easily thwarted. Many of the children who were not in the bilingual program, and indeed many of those who were as well attended Chinese school after the school day, where they learned to read, write and think Chinese, in the way that their parents believed proper Chinese children should.

School #7: This school, in many respects was like School #6, although it was in a different city. Like School #6, it is located in the very heart of the Chinese sector, the one in this city being substantially larger and older than the one in which School #6 is located. However, while the Chinatown area in this city is almost entirely Chinese, the school is not as exclusively Chinese as is School #6. The district (District D) has a desegregation policy which requires that all of the schools in the city be fully integrated. Children are bussed around the city in order to achieve this full integration. Hence, there are Black, Hispanic, Filipino and a variety of other students at this school, while many of the children who live within walking distance of this school are bussed each day to other schools in the district. Not only was the school integrated, the classes generally were as well. In the two bilingual classes involved in the study (a third grade "flip-flop" class involving two teachers, and fifth grade self- contained class) there were students representing the ethnic groups other than the Chinese enrolled in the school.

The groups generally got along fairly well, but while there was more social interaction across groups in the third grade than in the fifth grade class, the groups generally did not mix much.

Another major difference between this school and School #6 was in the size of its bilingual program. At School #7 there were at least 5 Cantonese bilingual classes at each grade level. The principal, and indeed the entire school staff was very supportive of the bilingual program. The bilingual program was an integral part of the school's instructional program rather than a peripheral effort. The teaching staff included both bilingual teachers who were of the same ethnic groups as the children served by the bilingual program, and English monolingual teachers who were not of those groups. These English-monolingual teachers were teamed with bilingual teachers in "flip-flop" arrangements, whereby each team of two teachers, one bilingual and the other English monolingual, served two classes of students, exchanging them on alternate days. On the days that a particular class was with the English monolingual teacher, the students received their instruction in whatever subjects that teacher taught entirely in English. On the days that the class was with the bilingual teacher, they received some of their instruction in the first language. This plan was used in a number of the schools in this district, and it effectively doubled the number of students that could be served in the program (here as everywhere, the number of children that could be accommodated by the bilingual program was limited at least in part by the availability of linguistically qualified teachers. The plan had another important benefit, or so it appears to the observer: By

involving the English monolingual teaching staff in the bilingual program, some of the social and philosophical differences that divided the faculties of the other schools in the study sample were not so apparent here at this school, or at School #8 which also followed the same plan.

From our conversations and interviews with teachers and administrators in this school, it was clear that there were differences to be found among the teachers as to how they viewed bilingual education philosophically. But the differences had much less to do with the approach (that is, making use of the students' home languages in school for instructional purposes) than with how they viewed the objectives of this approach. There were those who, in agreement with the district's general policy, saw the objective of bilingual instruction, as the means by which the transfer of LES students into all English programs might be facilitated. There were others who told us that such programs ought to be promoting linguistic development and functioning both in English and in the children's home language. How much native language support the children received in their bilingual classes varied considerably, according to our observations. There was, for example a considerable difference to be found between the two classes from this school which were involved in the study. In the third grade class, the children received a short period of Cantonese reading instruction every other day from the teacher aide, this being pretty much the substance of the home language component of the bilingual program. The teacher occasionally commented to the students in their home language, and the aide, when she interacted with the chil-

dren did use the home language, but there was no other use of that language for instructional purposes. In contrast, in the other class--the fifth grade Cantonese class drawn from this school--the children received much more Cantonese instruction. Here, both the teacher and his assistant used Cantonese for instructional purposes. The assistant taught calligraphy, reading, music and art in Cantonese. The teacher taught reading in Chinese, and he conducted some discussions occasionally in that language. Such variation in practice was fairly representative, we believe, of differences in commitment to bilingual education represented among the faculty of the bilingual program. Nevertheless, the general commitment to such an approach was much more favorable at this school than at most of those we have visited, including those at which we have conducted this study. At this school, it was possible for a child to remain in the bilingual program throughout the elementary years, something that was possible at few other schools we have visited. Indeed, there is very strong community support for native language maintenance, at least within the ethnic community. There has been since the early settlement of this Chinatown, parent supported Chinese language schools which many of the children growing up in the community have attended after their regular public school day. A substantial proportion of the Chinese children attending School #7 (whether in the bilingual program or not) attend such schools each day after school. Hence, while the first language instructional component of the bilingual program in this school varied depending on the inclinations and the philosophical bent of the individual teachers, many, if not most of the children in the school were receiving an education in their home language.

School #8: This school, located across town from School #7 in an industrial area was one of those to which children from the Chinatown sector were bussed each day. The school is situated in the neighborhood of a public housing complex whose residents are largely Black. There are also Samoans and some Filipino families living in the development, but few, if any Chinese families.

The school, like most other schools in the district is fairly well integrated. The Black and Samoan students lived in the neighborhood, and walk to school, but the others are bussed in from various parts of the city. Because of the massive bussing program that has been required to achieve this integration of the city's schools, the district has a dual schedule plan, whereby some of the elementary schools begin at 8:00 AM each day, and end at 2:00 PM, while others begin at 9:00 AM and end at 3:00 PM. School #8 was on the early schedule. Hence, the children who were bussed into the school from across town began their school day at a very early hour. The Chinese children in our bilingual third grade study class were picked up at various pickup points in Chinatown as early as 7:00 AM each day, in order to be taken to this school in time for class. Most of them had to leave their homes as early as 6:15 or 6:30 in order to be at the stops when the bus arrived. The teachers and administrators reported an excellent attendance record for these children, despite this unappealing schedule.

However, while School #8 was as well integrated as School #7, the classes themselves were not. The children in the bilingual classes were nearly exclusively Asians (most of them were Chinese, but there

were also a few Vietnamese, Cambodians and Laotians in those classes as well). Thus, while the children were attending an integrated school, they did not have much contact with anyone other than Asian students who were largely limited English speakers. They arrived at school each day shortly before 8, and while they had a few minutes to socialize with one another in the yard before the bell rang signalling the beginning of the school day, they tended to stay within their own groups. Quite often, the children in our study class would enter the school building before the bell rang on one pretext or another, in an attempt to get into their classrooms even before the beginning of class. Some of the children would do everything they could to avoid being in the schoolyard. During recess, they used every excuse they could find to stay indoors--they had papers that needed finishing, work books to check, and so forth. The cultural differences to be found among the children in School #8 were quite great, hence, it is not surprising that social mixing would not have been easy. But at the same time, the segregated classes did not allow them much of a chance to get to discover whether there were common grounds for interaction. The Asian children were strangers in this neighborhood school. They dressed differently, talked differently, and behaved differently, and they did not fit into the social world of the playyard. When they could not avoid being outside, they stayed pretty much in their own groups, and hence the other children in the school had little chance to get to know them. At the end of the school day, they climbed back into the busses to be transported back to their own world.

This pattern of integration without interaction is a fairly common one, despite the best intentions of the district administration. The social and linguistic barriers between the ethnic groups in schools such as this one can hardly be broken down just by placing children together under one roof. At the same time, they do not break down easily even when children are fully integrated, and are placed in the same classrooms.

2.4. Characterization of Individual Classrooms

Seventeen classes participated in the study. Their distribution by grade level, program designation, and by language background of the students were as follows:

	L1 of Students in Classes	
	Cantonese	Spanish
Grade 3	4 bilingual classes	4 bilingual classes
	2 English only classes	3 English only classes
	(6 total)	(7 total)
Grade 5	1 bilingual class	1 bilingual class
	1 English only class	1 English only class
	(2 total)	(2 total)

In this report, each class is referred to by a unique code which indicates its grade level (i.e., "3" or "5"), the L1 background of the students (i.e., "C" for Cantonese or "S" for Spanish), and a class number (1 to 7). Thus, the class which is referred to throughout as "3S1" is a third grade Spanish class which is the first of seven such

classes. The first four third grade classes on this numbered list are the bilingual ones (classes 1 through 4), while the others are English only (classes 5 through 7). The two bilingual fifth grade classes are designated "1"'s in our class codes, while the English only classes are "2"'s. The following is a listing of the class codes:

	L1 of Students in Classes	
	Cantonese	Spanish
Grade 3	Bilingual classes	Bilingual classes
	3C1	3S1
	3C2	3S2
	3C3	3S3
	3C4	3S4
	English only classes	English only classes
	3C5	3S5
	3C6	3S6
		3S7
Grade 5	Bilingual class	Bilingual class
	5C1	5S1
	English only class	English only class
	5C2	5S2

2.4.1. Demographic Variables

Classrooms participating in the study varied considerably on a number of dimensions that can be relevant to the amount of peer interaction and amount of English versus first language input target children received. The data to be presented concerns four types of demographic information -- the relative percentages of children capable of speaking different languages in the classroom, the distribution of ethnic categories in the classrooms, the proportion of foreign-born to U.S.-born students in the classrooms, and the number of children in each classroom who spoke little or no English at the beginning of the year.

2.4.1.1. Language Background of Children

Tables 2.1 to 2.3 and Figures 2.1a to c display the percentages of children speaking various languages in the different classrooms at the third and fifth grade in the Spanish and Chinese samples. For the purposes of these tallies, a distinction was not made about whether a language was learned first, second, or third in a child's life. Consequently, some of the categories total more than 100%. It should be noted that because a number of children entered and left classrooms during the year, it was necessary to calculate two percentages for many cells of the tables. The first number indicates the percentage of speakers of a language who were present in the classroom during the entire year (or at least from October of 1981 to May of 1982). Numbers inside parentheses indicate percentages of speakers who were present in classrooms at any time during the school year.

In this regard, it should be noted that the Chinese classrooms in the sample were on the whole much more stable in terms of students arriving or leaving during the year than were the Spanish classrooms. That is, the Spanish classrooms exhibited much higher transience of students, with one bilingual classroom having 43.6% of its students arrive or leave between October and May. In general, 21.4% of the students in the Hispanic classrooms were transient, versus 8.6% of the students in the Chinese classrooms. This difference was statistically significant (chi square = 17.8, df = 1, $p < .001$). However, for the most part, the percentages of children in each language-speaking group arriving or leaving during the year were approximately proportional to their frequency in the classrooms. That is, no one language-speaking

Table 2.1

Percentage Speakers of Various Languages in Hispanic Classrooms[a]

	English Only	Spanish	Tagalog	Chinese, Vietnamese Cambodian, Laotian	Others: Hebrew, Hindi
3rd Bil (N=147)	15.0 (19.0)[b]	61.6 (81.0)	.7	-	-
3rd All-Eng (N=94)	50.0(66.6)	26.6 (30.0)	1.1	(1.1)	2.1
Total 3rd Grade (N=241)	28.6 (37.3)	48.5 (61.0)	.8	(.4)	.8
5th Bil (N=35)	25.7 (42.9)	48.6 (57.1)	-	-	(2.9)
5th All-Eng (N=32)	43.8	40.6 (43.8)	3.1	9.4	-
Total 5th Grade (N=67)	34.3 (43.3)	44.8 (50.7)	1.5	4.5	(1.5)
Total Spanish Sample (N=308)	30.0 (38.6)	47.7 (58.8)	1.0	1.0(1.3)	.7 (1.0)

Note. Percentages within classroom, type of classroom, and age group may not sum to 100%, since some trilingual children were counted more than once.

[a] The base number of students in each classroom on which the percentages were calculated included children who were in the classroom the whole year and also those who arrived after October of 1981 or left before May 1982.

[b] Numbers outside parentheses indicate percentages of speakers of each language who were present in the classroom the whole year. Numbers inside parentheses indicate percentages of speakers who were in a classroom all or only part of the year.

Table 2.2

Percentage Speakers of Various Languages in Chinese Classrooms[a]

	English Only	Cantonese	Other Chinese Dialects	Vietnamese	Other SE Asian Lang.	Spanish
3rd Bil (N=123)	9.8 (10.6)[b]	69.9 (80.5)	17.1	16.3 (17.9)	1.6	-
3rd All-Eng (N=65)	9.2	58.5 (66.2)	-(1.5)	21.5 (27.7)	7.7 (9.2)	4.6 (6.2)
Total 3rd (N=188)	9.6 (10.1)	66.0 (75.5)	11.2(11.7)	18.1 (21.3)	3.7 (4.3)	1.6 (2.1)
5th Bil (N=30)	6.7 (6.7)	93.3 (93.3)	23.3 (23.3)	26.7 (26.7)	-	-
5th All-Eng (N=30)	20.0 (20.0)	60.0 (60.0)	3.3 (3.3)	20.0 (20.0)	-	-
Total 5th (N=60)	13.3	76.7	13.3	23.3	-	-
Total Chinese (N=248)	10.5 (10.9)	68.5 (75.8)	11.7 (12.1)	19.4 (21.8)	2.8 (3.2)	1.2 (1.6)

Note. Percentages within classroom, type of classroom, and age group may not sum to 100%, since some trilingual children were counted more than once.

[a]The base number of students in each classroom on which the percentages were calculated included children who were in the classroom the whole year and also those who arrived after October of 1981 or left before May 1982.

[b]Numbers outside parentheses indicate percentages of speakers of each language who were present in the classroom the whole year. Numbers inside parentheses represent percentages of speakers who were in a classroom all or only part of the year.

Table 2.3

Percentages of Speakers of Various Languages

by Grade and Classroom

	Monoling. English	Cantonese	Other Chinese Dialects	Vietnamese	Other S.E. Asian	Spanish	Other
Grade 3 Chinese							
3C1 N=26	15.4 (15.4)	65.4 (69.2)	11.5 (11.5)	7.7 (7.7)			
3C2 N=34	20.6 (26.5)	52.9 (70.6)	8.9 (8.9)	38.2 (44.1)	(2.9) (2.9)		
3C3 N=30		86.7 (93.3)		13.4 (13.4)			
3C4 N=33	3.0 (3.0)	75.8 (87.9)	36.4 (36.4)	3.0 (3.0)	3.0 (3.0)		
3C5 N=34		58.8 (67.6)		14.7 (26.5)	8.8 (11.8)	8.8 (11.8)	
3C6 N=31	19.4 (19.4)	58.1 (64.5)	0 (3.2)	29.0 (29.0)	6.5 (6.5)		
Grade 3 Hispanic							
3S1 N=31	29.0 (29.0)					71.0 (71.0)	
3S2 N=39	7.7 (7.7)					76.9 (92.3)	
3S3 N=41	17.1 (22.0)					41.5 (78.0)	
3S4 N=36	8.3 (19.4)					63.9 (80.6)	
3S5 N=34	50.0 (67.6)			0.0 (2.9)	2.9 (2.9)	26.5 (26.5)	
3S6 N=30	56.7 (70.0)					30.0	
3S7 N=30	43.3 (60.0)					23.3 (33.3)	6.7 (6.7)
Grade 5 Chinese							
5C1 N=30	6.7 (6.7)	93.3 (93.3)	23.3 (23.3)	26.7 (26.7)			
5C2 N=30	20.0 (20.0)	60.0 (60.0)	3.3 (3.3)	20.0 (20.0)			
Grade 5 Hispanic							
5S1 N=35	25.7 (42.9)					48.6 (57.1)	0.0 (2.9)
5S2 N=32	43.8 (43.8)				12.5 (12.5)	40.6 (43.8)	

Figure 2.1a Percentage Monolingual English Speakers and Cantonese Speakers in Grade 3 Chinese Classrooms

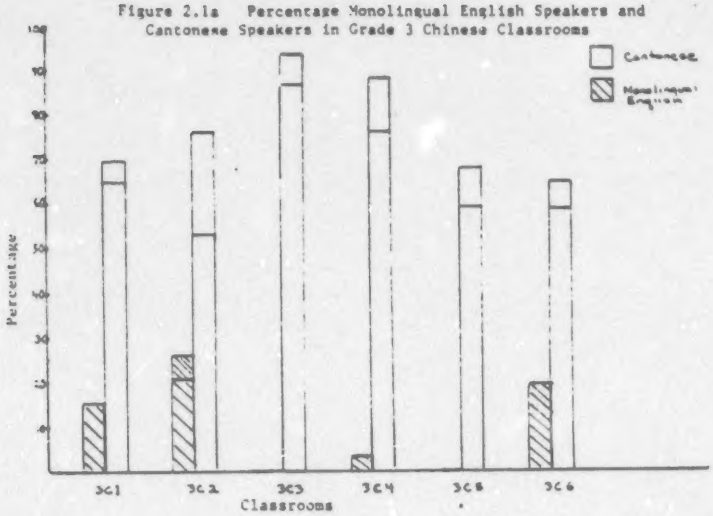


Figure 2.1b Percentage Monolingual English Speakers and Spanish Speakers in Grade 3 Hispanic Classrooms

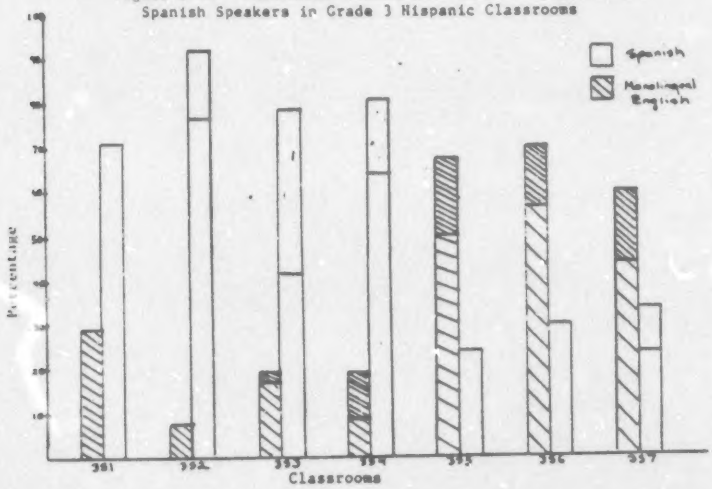
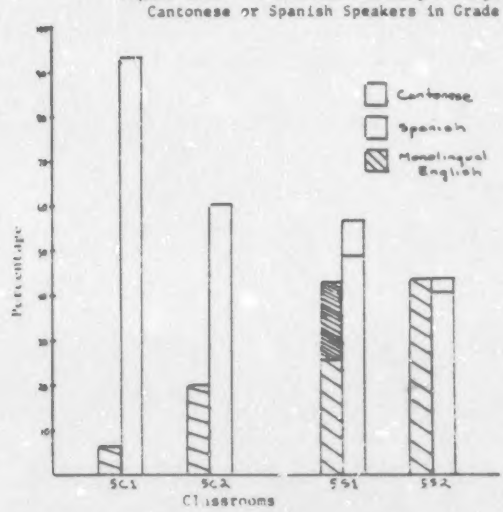


Figure 2.1c Percentage Monolingual English Speakers and Cantonese or Spanish Speakers in Grade 5 Classrooms



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group was over-represented in this transient population. (See Table 2.4 for data concerning transience frequencies and proportions within the various language groups.)

Returning to the above tables and figures concerning the languages spoken by children in the target classrooms, a number of interesting contrasts can be seen between the Spanish and Chinese classrooms (Tables 2.1, 2.2, and 2.3, and Figures 2.1a to c). The Chinese classrooms, both bilingual and all-English at both the third and fifth grades were predominantly composed of Cantonese-speaking children and had relatively small numbers of monolingual English speakers in them. As can be seen, the percentages of monolingual English speakers in these classrooms ranged from 0 to 26.5 but averaged only 10.1% in the third grades and 13.3% in the fifth grades. In the Spanish sample the third grade bilingual classrooms look much like all the Chinese classrooms, with a large proportion of speakers of the minority language (here Spanish) and a much lower percentage of monolingual English speakers (ranging from 7.7 to 29% and averaging 19.0%). However, the Spanish third grade all-English classrooms were strikingly different in composition, with a much higher percentage of monolingual English speakers (ranging from 50 to 70%). The two Spanish fifth grade classrooms exhibited a still different pattern, with approximately equivalent numbers of Spanish speakers and monolingual English speakers.

Another difference between the Chinese and Spanish classrooms was that the Chinese classrooms contained a considerable percentage of children speaking languages other than just English or Cantonese.

Table 2.4

Transience of Students in Classrooms
By Grade and Ethnicity

Grade by Ethnicity, Classroom Type, and Classroom	Numbers of Speakers Arriving or Leaving			
	Engl. Monol. Speakers	Cantonese Speakers	Spanish Speakers	Speakers of Other Languages
Grade 3 Chinese	2(10.5)[a]	18(12.7)		3
Bilingual	2(15.4)	13(13.1)		
All-English	0	5(11.6)	1	3
3C1	0	1		
3C2	2	6		
3C3	0	2		
3C4	0	4		
3C5	0	3	1	3
3C6	0	2		
Grade 5 Chinese	0	0		
Total Chinese Sample	2(7.4)	18(9.6)	1	3
Grade 3 Hispanic	21(23.3)		30(20.7)	
Bilingual	6(21.4)		27(23.1)	
All-English	15(24.2)		3(10.7)	
3S1	0		0	
3S2	0		6	
3S3	2		15	
3S4	4		6	
3S5	6		0	
3S6	4		0	
3S7	5		3	
Grade 5 Hispanic	6(20.7)		4(11.8)	1
Total Hispanic Sample	27(22.7)		34(19.0)	1

[a] Numerals in parentheses represent the percentages of transient students relative to the total numbers of students speaking each language

Overall 12.1% of children in the Chinese classrooms spoke another Chinese dialect, 21.8% spoke Vietnamese, 3.2% spoke another Southeast Asian language like Burmese or Laotian, and 1.6% spoke Spanish. In a large number of cases this was the result of children speaking multiple dialects and languages--three and sometimes four languages or dialects. In the Spanish sample of classrooms on the other hand, only about 3% of the children in the classrooms were identified as speaking a language other than Spanish or English.

2.4.1.2. Ethnic Background of Children

Table 2.5 shows the distribution of children in the target classrooms by ethnic background. Again the first number represents the percentage of children who were in the classroom for the entire school year (from October to May); the number in parentheses represents the percentage of children who were in the classroom at any time during the school year.

It is obvious from the tables that Chinese children tended to predominate more in their classes than did Hispanic children. Chinese children constituted 75.1% of their classes, whereas Hispanic children constituted 58.7% of their classes. This difference was statistically significant (chi square = 14.91, df= 1, $p<.001$). There were also fewer Caucasians and fewer blacks in the classes with our Chinese students. Taken together, the percent of Caucasians and blacks in the classes containing our Chinese children was 10.2%, while it was 35.5% in the classes containing our Hispanic subjects. This difference was statistically significant (chi square = 53.1, df = 1, $p < .001$).

Table 2.5

Percentage of Students of Different Ethnic Backgrounds
by Grade, Ethnicity, and Type of Classroom

Classroom Type	n[a]	Chinese	Black	Hispanic	Caucasian	Other Asian	Other
Grade 3 Chinese	173 (195)	73.9 (73.8)	7.5 (7.2)	1.7 (1.5)	2.9 (2.6)	9.8 (10.8)	4.0 (4.1)
Bilingual	110 (123)	84.5 (85.4)	9.1 (8.9)	- -	- -	3.6 (3.3)	2.7 (2.4)
All-English	63 (72)	54.7 (54.2)	4.7 (4.2)	4.7 (4.2)	7.8 (6.9)	20.3 (23.6)	7.8 (6.9)
Grade 3 Hispanic	205 (268)		18.5 (19.0)	61.4 (61.5)	16.0 (15.2)		2.4 (2.2)
Bilingual	129 (173)		14.7 (15.0)	79.1 (78.6)	3.1 (2.9)		0.7 (0.7)
All-English	76 (95)		25.0 (26.3)	31.6 (30.5)	38.2 (37.8)		5.3 (5.2)
Grade 5 Chinese	60	78.3	5.0	- -	5.0	10.0	1.6
Bilingual	30	86.7	10.0	- -	-	3.3	-
All-English	30	70.0	-	-	10.0	16.7	3.3
Grade 5 Hispanic	59 (68)		20.0 (19.1)	49.1 (48.5)	16.9 (22.0)		11.8 (10.2)
Bilingual	27 (35)			63.0 (57.1)	37.0 (42.8)		
All-English	32 (33)		40.6 (39.3)	37.5 (39.3)			21.8 (21.2)
Total Chinese	233 (255)	75.1 (74.9)	6.8 (6.7)	1.3 (1.2)	3.4 (3.1)	9.9 (10.6)	3.4 (3.5)
Total Hispanic	264 (336)		19.3 (19.0)	58.7 (58.9)	16.2 (16.6)		4.5 (3.8)

[a] Numerals outside parentheses indicate the number of students in each group who were in the classrooms for the entire year. Numerals inside the parentheses indicate the number who were present in the classrooms at any time during the school year.

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For both Chinese and Hispanic samples, the bilingual classes contained a greater percentage of children of the same ethnic group as our target subjects than did the all-English classes. Across the third and fifth grade samples, the percentage of Chinese was 85% in the bilingual classes and 60.2% in the all-English classes. This difference was significant (chi square = 18.4, df = 1, P < .001). For the Hispanic classes the percent of Spanish in the bilingual classes was 76.2% and 33.3% in the all-English classes. Again the difference was statistically significant (chi square = 48.6, df = 1, p < .001).

Table 2.6 shows the percentage of students of different ethnic backgrounds by grade and classroom. It can be seen from the table that the Chinese all-English classrooms (3C5 and 3C6) contained the greatest variety of children from different ethnic backgrounds, as did the Hispanic all-English classrooms (3S5, 3S6, and 3S7).

2.4.1.3. Foreign Born Children in Target Classrooms

Table 2.7 shows the percentages of children born in this country and elsewhere. The children in the Hispanic classrooms tended to be born predominantly in the United States (54.3%), whereas this was less likely to be the case in the Chinese classes (31.2%). This difference was statistically significant (chi square = 24.0, df = 1, p < .001).

Children in bilingual classes were more likely to be born outside the country than were children in all-English classes, especially at the third grade level. In the Chinese third-grade classes 76.8% of the children in the bilingual classes were born outside of the U.S.,

Table 2.6

Percentage of Students of Different Ethnic Backgrounds by Grade and Classroom

	Chinese	Black	Hispanic	Caucasian	Other Asian	Other	Missing
Grade 3 Chinese							
3C1	87.5 (87.9)	12.5 (11.9)					
3C2	69.2 (72.7)	26.9 (24.2)			3.8 (3.0)		
3C3	93.3 (93.7)				6.6 (6.2)		
3C4	89.6 (87.8)				6.8 (9.0)	3.4 (3.0)	
3C5	50.0 (50.0)	9.3 (7.8)	6.2 (5.2)	3.1 (6.2)	25.0 (28)	6.2 (5.2)	
3C6	59.3 (60.6)		3.1 (3.0)	12.5 (12.1)	15.6 (18.1)	9.3 (6.0)	
Grade 3 Hispanic							
3S1		29 (29)	70.9 (70.9)				
3S2			87.7 (68.1)	8.1 (6.7)		4.0 (5.0)	4.3 (4.5)
3S3		30.4 (27.2)	65.2 (68.1)				3.9 (2.5)
3S4		11.5 (12.8)	84.6 (82)	(2.5)			
3S5		55.5 (60)	33.5 (28.5)	3.7 (2.8)		7.4 (8.5)	
3S6		8.1 (6.6)	30.6 (31.6)	57.1 (58.3)		4.0 (3.3)	
Grade 5 Chinese							
5C1	86.6 (86.6)	10.0 (10)			3.3 (3.3)		
5C2	69.9 (69.9)			10.0 (10)	16.6 (16.6)	3.3 (3.3)	
Grade 5 Hispanic							
5S1			62.9 (57.1)	37.0 (42.8)			
5S2		40.6 (39.3)	37.5 (39.3)	21.8 (21.2)			

Table 2.7

Percentage of Students According to Place of Birth
by Grade, Ethnicity, and Type of Classroom

Classroom Type	n[a]		Place of Birth: US		China		Hong Kong		Vietnam		Mexico		Other		Missing	
Grade 3 Chinese	173	(195)	27.7	(26.8)	19.2	(20.0)	18.6	(16.8)	27.7	(29.4)			4.2	(4.2)	2.4	(2.6)
Bilingual	110	(123)	24.2	(23.7)	25.2	(25.4)	20.5	(18.8)	27.1	(28.6)			1.8	(1.6)	0.0	(1.6)
All-English	63	(72)	33.8	(32.3)	8.4	(10.2)	15.2	(13.2)	28.8	(30.8)			8.4	(8.8)	5.0	(4.4)
Grade 3 Hispanic	205	(268)	55.3	(53.3)							35.4	(36.0)	2.9	(2.6)	6.3	(7.8)
Bilingual	129	(173)	42.4	(39.1)							45.4	(46.7)	2.2	(1.7)	9.8	(12.2)
All-English	78	(95)	78.3	(78.9)							17.5	(16.8)	4.0	(4.2		
Grade 5 Chinese	60		44.9		3.3		20.0		31.6							
Bilingual	30		40.0		6.6		23.3		30.0							
All-English	30		50.0		-		16.6		33.3							
Grade 5 Hispanic	59	(68)	50.8	(51.4)							38.9	(38.2)	8.4	(8.8)	1.6	(1.4)
Bilingual	27	(35)	48.1	(51.4)							51.8	(45.7)	0.0	(2.8)		
All-English	32	(33)	53.1	(51.5)							28.1	(30.3)	15.6	(15.1)	3.1	(3.0)
Total Chinese	233	(255)	32.3	(31.2)	15.0	(15.9)	19.0	(17.5)	28.7	(30.0)			3.0	(3.2)	1.7	(1.9)
Total Hispanic	264	(336)	54.3	(52.9)							36.2	(36.5)	4.1	(3.8)	5.2	(6.5)

[a] Numerals outside parentheses indicate the number of students in each group who were in the classrooms for the entire year. Numerals inside the parentheses indicate the number who were present in the classrooms at any time during the school year.

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whereas in the all-English third-grade classes the figure was 66.2%. In the Hispanic third-grade classes 54.6% of the children in the bilingual classes were born outside of the U.S., whereas in the all-English third-grade classes the figure was only 21.5%.

There was greater diversity in the origins of children in the Chinese classes than in the Hispanic classes (Table 2.8). The Hispanic children tended to come from Mexico or to have been born in the U.S. 67% of the children in the Chinese classes were born in China, Hong Kong, Vietnam, or other Asian countries.

2.4.1.4. NES and Low LES Children in Target Classrooms

Turning to the question of how many children in each classroom spoke little or no English, since we ourselves did not administer language tests to all members of each class, we counted the number of students in each class who either were in an English-speaking classroom for the first time or who had experienced only between one month and one year of schooling in the U.S. during the previous year. Although this gives only an approximate idea of the number of NES and low LES students (since children learn language at very different rates) it probably does provide a rough count of the number of children who were in the beginning stages of learning English in each classroom and grade X ethnicity group. It should be noted that these tallies include children whose first language was any other language except English, not just children whose first language was either Cantonese or Spanish. Table 2.9 displays the percentages of students with little or no previous instruction in English prior to the study year

Table 2.8

Percentages of Foreign Born Students

by Grade and Classroom

	US	China	Mexico	Hong Kong	Viet Nam	Other	Missing
Grade 3 Chinese							
3C1	50.0 (47.9)	16.6 (15.9)		20.8 (23.9)	12.5 (11.9)		
3C2	26.9 (23.5)	3.8 (5.8)			61.5 (61.7)	3.8 (2.9)	3.8 (5.8)
3C3	3.5 (3.3)	53.5 (53.3)		17.8 (16.6)	25 (26.6)		
3C4	20.6 (24.2)	24.1 (27.2		41.3 (36.3)	10.3 (9)	3.4 (3)	
3C5	37.0 (32.3)	14.8 (14.7)		14.8 (11.7)	25.9 (32.3)	7.4 (8.8)	
3C6	31.2 (32.3)	3.1 (5.8)		15.6 (14.7)	31.2 (29.4)	9.3 (8.8)	9.3 (8.8)
Grade 3 Hispanic							
3S1	29 (29)		70.9 (70.9)				
3S2	47.9 (43.1)		27.0 (29.3)				25.0 (27.5)
3S3	48.1 (38.6)		40.7 (54.5)			7.4 (4.5)	3.7 (2.2)
3S4	42.3 (42.1)		53.8 (44.7)			3.8 (2.6)	0 (10.5)
3S5	81.4 (82.8)		14.8 (11.4)			3.7 (5.7)	
3S6	76.5 (76.6)		19.1 (20)			4.2 (3.3)	
Grade 5 Chinese							
5C1	40 (40)	6.6 (6.6)		23.3 (23.3)	30 (30)		
5C2	50 (50)			16.6 (16.6)	33.3 (33.3)		
Grade 5 Hispanic							
5S1	48.1 (51.4)		51.8 (45.7)			3.0 (2.8)	
5S2	53.1 (51.5)		28.1 (30.3)			15.6 (15.1)	3.1 (3)

Table 2.9

Percentages of Students with Little or No Previous Instruction In English Prior to Study Year by Grade, Ethnicity, and Classroom Type

Grade by Ethnicity and Classroom Type	No Previous Instruction		Less Than 1 Year Instruction		Total NES and Low LES	
	Stable	Stable & Transient	Stable	Stable & Transient	Stable	Stable & Transient
Grade 3 Chinese (n= 163,194)[a]	4.3	7.2	18.4	19.1	22.7	26.3
Bilingual (n= 108,129)	4.6	8.5	23.1	23.3	27.8	31.8
All-English (n= 55, 65)	3.6	4.6	9.1	10.8	12.7	15.4
Grade 3 Hispanic (n= 189, 241)	2.1	2.9	5.8	5.0	7.9	7.9
Bilingual (n= 115, 147)	3.5	4.1	7.0	6.1	10.4	10.2
All-English (n= 74, 94)	0.0	1.1	4.1	3.2	4.1	4.3
Grade 5 Chinese (n=56, 60)	1.8	1.7	12.5	11.7	14.3	13.3
Bilingual (n= 26,30)	3.8	3.3	11.5	10.0	15.4	13.3
All-English (n= 30)	0.0	0.0	13.3	13.3	13.3	13.3
Grade 5 Hispanic (n= 57, 68)	7.0	10.3	0.0	0.0	7.0	10.3
Bilingual (n= 26, 35)	11.5	11.4	0.0	0.0	11.5	11.4
All-English (n= 31,33)	3.2	9.1	0.0	0.0	3.2	9.1
Total Chinese (n= 219,254)	3.7	5.9	16.9	17.3	20.5	23.2
Total Hispanic (n= 246,309)	3.3	4.5	4.5	3.9	7.7	8.4

[a] The first sample 'n' indicates the number of students who were in the group for the entire year. The second numeral indicates the number who were present in the group at any time during the school year.

by grade, ethnicity, and type of classroom. As in previous counts, two separate calculations have been done for each category of student, one giving the percentage of NES and low LES among the stable members of each class, and one giving the percentage of NES and low LES among both stable and transient members of each class. Overall, the percentage of children in the classes with no previous exposure to schooling in the U.S. was fairly low. Only 3.7% of the children in our Chinese classrooms for the entire year were non-English-speaking by this criterion. In the Hispanic classes, the percentage was about the same -- 3.3%. However, the percentage was larger in the Grade 5 Hispanic bilingual classroom, where 3 of the 26 stable class members were newcomers to American schooling. When the category of children with some exposure to English during the previous school year is added to the previous count, a different picture emerges. Within the Chinese classrooms overall, 20.5% of the stable class members had had one or less years of schooling in the U.S., whereas only 7.7% of the students in the Hispanic classrooms fit that classification. The percentage of NES and low LES students was especially high in the Grade 3 Chinese bilingual classrooms where better than a quarter of the students were relative newcomers (27.8%). At the third grade, for both Chinese and Hispanic classrooms, there were more than twice the number of children in the bilingual as in the all-English classrooms with one year or less of English schooling. Three of the four fifth grade classrooms had approximately the same number of relative newcomers among the stable class members (3 or 4), but the Hispanic fifth grade all-English classroom only had one such student. Table 2.10 presents the same data for each classroom separately. This table indicates

Table 2.10

Percentages of Students with Little or No Previous Instruction In English Prior to Study Year by Classroom

Classrooms	No Previous Instruction		One Yr. or Less Instruction		Total NES and Low LES	
	Stable	Stable & Transient	Stable	Stable & Transient	Stable	Stable & Transient
Grade 3 Chinese						
3C1 (n=25,32)[a]	0.0	6.3	0.0	12.5	0.0	18.8
3C2 (n=26,34)	15.4	17.6	23.1	20.6	38.5	38.2
3C3 (n=28,30)	3.6	6.7	32.1	30.1	35.7	36.7
3C4 (n=29,33)	0.0	3.0	34.5	30.3	34.5	33.3
3C5 (n=26,34)	7.7	8.8	15.4	14.7	23.1	23.5
3C6 (n=29,31)	0.0	0.0	3.4	6.5	3.4	6.5
Grade 3 Hispanic						
3S1 (n=31)	3.2	3.2	16.1	16.1	19.4	19.4
3S2 (n=35,39)	0.0	0.0	0.0	0.0	0.0	0.0
3S3 (n=24,41)	8.3	7.3	8.3	4.9	16.7	12.2
3S4 (n=25,36)	4.0	5.6	8.0	5.6	12.0	11.1
3S5 (n=27,34)	0.0	0.0	7.4	5.9	7.4	5.9
3S6 (n=25,30)	0.0	0.0	0.0	0.0	0.0	0.0
3S7 (n=22,30)	0.0	3.3	4.5	3.3	4.5	6.7
Grade 5 Chinese						
5C1 (n=26,30)	3.8	3.3	11.5	10.0	15.4	13.3
5C2 (n=30)	0.0	0.0	13.3	13.3	13.3	13.3
Grade 5 Hispanic						
5S1 (n=26,35)	11.5	11.4	0.0	0.0	11.5	11.4
5S2 (n=31,33)	3.2	9.1	0.0	0.0	3.2	9.1

[a] The first sample 'n' indicates the number of students who were present for the entire year. The second numeral, when it appears, indicates the number of students present in the group at any time during the school year, i.e., the total number of stable and transient students.

enormous variability within the grade X ethnicity and classroom type groups in the number of of NES and low LES students. For example, though the Chinese third grade bilingual classrooms averaged 27.8% NES and low LES students, classroom 3C1 had no stable class members of this type, and classroom 3C4 had 34.5% of its students in these categories. There was also considerable though less extreme variability within the other grade by ethnicity groups, as can be seen by examination of the percentages for each classroom in those groups.

2.4.2. CTBS Achievement Data

Data were collected from the school districts on students in the seventeen target classrooms in an attempt to assess the level of academic functioning in those classrooms at the beginning of the 1981-82 school year. Students' scores on the Reading, Language Arts, and Mathematics subtests of the Comprehensive Tests of Basic Skills (CTBS) for Spring or Fall of 1981 were obtained not only for target subjects but for other class members as well. Since the administration of the CTBS is a major part of the standardized testing program conducted by the school districts, virtually all students had been tested, and their scores were readily obtainable from the districts. This fact was an important consideration since the test represented the only standardized measure on which targets and their classmates could be compared in this project.

2.4.2.1. The Nature of the CTBS Test

The publisher of the CTBS, McGraw- Hill, claims that all levels of the test are designed to draw on the following five intellectual processes: recognition, translation, interpretation, application, and analysis. Each item requires that the students perform at least one of the following operations:

- recognition or recall of information;
- translation or conversion of concepts from one form of language (symbolic or verbal) to another;
- comprehension of concepts and their interrelationship;
- application of techniques, including fundamental operations;
- interpretation beyond stated information.

While the same form of the CTBS was used for all testing (Form S, published in 1973), the levels used differed according to the grade in which they were administered. Since the subtests were not identical across all levels, a brief description of the subtests by level is provided.

Level C.

Level C is considered appropriate for grades 1.6 to 2.9. The battery consists of three subtests in the skill areas of Reading and Language Arts and two subtests in the area of Mathematics. For each skill area a total score is obtained by adding the raw scores for the corresponding subtests.

Reading. The Reading scale is comprised of a vocabulary and two comprehension subtests. The vocabulary section is made up of 33

items, for which the examiner reads a definition, and the students are asked to select the word referred to from a group of four words printed on the page. The words defined are found in reading material at the following grade levels, as determined by the EDL Revised Core Vocabulary (Taylor et al., 1969): six words are at Grade 1, sixteen at Grade 2, nine at Grade 3, and two at Grade 4. The distractors are drawn from antonyms as well as contextually related and unrelated words.

Reading comprehension is tested by means of the "sentences" and "passages" subtests. In the 23-item sentences test, students are asked to select the word that best completes a sentence (both semantically and syntactically). Since reading skill per se is not being measured, responses have been chosen so that the majority are readable by second graders, as determined by the EDL Revised Core Vocabulary. The following distribution of grade difficulties is reported by the publisher: 13 percent at Grade 1, 48 percent at Grade 2, 17 percent at Grade 3, with the remaining 22 percent at a fourth grade level. The passages subtest is made up of six passages from which 18 items are drawn. Students are asked to answer questions requiring literal recall, use of contextual cues, or interpretation or selection of the main idea. As with the sentences test, words in the passages are drawn predominantly from the first and second grade levels.

Language Arts. For the Language Arts scale, spelling, mechanics, and expression are tested. The spelling subtest consists of 34 words. The examiner reads the word aloud and uses it in a sentence. Students are to determine whether or not the word presented is spelled

correctly. They mark their decision by choosing the smiling face for correctly spelled words, and the frowning face for misspelled words.

The 23-item mechanics test focusses on punctuation and capitalization. The 11-item punctuation section tests the students' knowledge of the use of commas, periods, question marks, and exclamation points. Each item contains one or two sentences. At the beginning of each item one of the above punctuation marks is presented in a circle. The students are to determine if it is needed, and if so, its location. Items focussing on rules of capitalization are presented using the same format.

The 22 items of the language expression test follow the format of the sentences part of the Reading test. For each item a sentence is presented in which a word is missing. Students are asked to read the sentence and choose the word which best completes it. This test assesses the students' knowledge of standard English. The majority of distractors involve incorrect syntax or non-standard English.

Mathematics. For the Mathematics scale, only two subtests are involved. In the computations test, students are to perform ten addition, ten subtraction, and ten multiplication problems. Addition and subtraction problems are presented both vertically and horizontally with one-, two-, and three-digit numbers. Only one digit multiplication problems are given, all horizontally. Each mathematical operation is timed separately.

In the concepts and applications test the 25 items are read aloud to the students. The test measures basic operation skills (numbers,

measurement, and fractions). Students select from pictorial, numerical, or printed responses.

Level 1.

Level 1 is appropriate for grades 2.5-4.9. While the subject areas covered by this level are identical to that of Level C, the subtests and format vary. As stated previously, for all levels the total score for each subject area is found by adding the scores on the constituent subtests.

Reading. For Level 1, the Reading section involves only a vocabulary subtest and one comprehension subtest. The vocabulary measure is based on 40 items. For each item, a phrase is presented in which one word is underlined. Students are to choose a synonym from four alternatives provided. The words selected for inclusion were based on A Revised Vocabulary: A Basic Vocabulary for Grades 1-8 (Taylor et al., 1969a).

The reading comprehension subtest measures skills in literal and critical comprehension. A majority of the 45 items, based on seven reading selections, are claimed to tap critical comprehension and to involve common emotions and experiences as well as informative material.

Language Arts. The Language Arts scale consists of the same subtests as those in Level C, i.e., spelling, mechanics, and expression. Each of the 44 spelling words are presented to the students in a sentence. The students are to read the sentence and determine if the

underlined word is spelled correctly. The students mark the appropriate space for "right" or "wrong." Each item is used to assess a specific spelling rule. Words of appropriate reading difficulty were drawn from A Revised Core Vocabulary (Taylor et al., 1969). As with Level C, the mechanics subtest examines punctuation and capitalization skills in sentences. There are ten items for each skill area. The expression test is comprised of 40 items which tap aspects of linguistic expression including: standard English, syntax, diction, and organizational skill.

Mathematics. The Level 1 Mathematics scale also involves computation, concepts, and applications, but separate scores are reported for the latter two areas. Each of the basic mathematical operations (addition, subtraction, multiplication, and division) is tested with twelve items in the computation section. The remaining 50 items are divided evenly between concepts and application questions. The concepts items assess students' ability to comprehend mathematical concepts and their interrelationships, as well as their ability to convert concepts expressed in one form (graphic, numerical, or verbal) to another. The concepts assessed include number systems, measurement, set theory, geometry, and numeration. The remaining questions are designed to assess the problem-solving abilities of the students in the areas of algebra, measurement, reasoning, and set theory.

Level 2.

The Level 2 test is appropriate for grades 4.5-6.9. The number of the subtests and their format at this level are identical to that

of Level 1. Consequently, only the differences in the nature of the subtests at this level are noted below.

In the vocabulary part of the Reading test, words have been drawn from An Advanced Vocabulary for Grades 9-13 (Taylor et al., 1969b), as well as from A Revised Core Vocabulary: A Basic Vocabulary for Grades 1-8. In Language Arts, the number of items for the spelling subtest has been increased from 44 to 50. The expression subtest has also been increased in length by 5 items. Another aspect of effective expression-- clarity and economy of expression-- is examined at Level 2, in addition to the skills previously mentioned. The remaining changes can be found in the mathematics concepts and applications sections. While the number of items has been remained the same, the content areas have been broadened. At Level 2, the concepts section includes questions involving graphs, and the applications subtest examines students' knowledge of percentages and numeration.

2.4.2.2. Descriptive Findings on the CTBS

All findings are reported in standard scale form because they allow the assessment of students' achievement regardless of the level(s) used. For the purposes of interpretation of these scale scores, comparisons are made between the means of each whole class in our study and the CTBS standardization sample.

Before proceeding with these comparisons, it is important to characterize the standardization sample. This demographic information was obtained by the test publisher in Spring 1973 from the schools

that participated in the standardization study. Data provided by schools concerned characteristics of the student population for the school, and not for the specific classrooms tested. According to the test publisher the percentage of students in the standardization sample who spoke a language other than English outside of school or came from homes in which a language other than English was spoken was 8.8%. The ethnic groups represented included: 8.5% Hispanic, 16.8% Black, and 74.1% other.

In addition to presenting means and standard deviations of the standardization sample, as a basis for comparison, stanine equivalents for each classroom mean have also been reported. The values have been included in an attempt to more clearly characterize the level of functioning for the classrooms as a whole. One is cautioned against drawing comparisons between the levels of performance of the various classes. It is important to keep in mind that the composition of the classrooms varied widely in terms of percentage of native English speakers, and NES and low LES children. For this reason, direct comparisons between classrooms have been avoided.

Reading. The CTBS reading performance of all students in each of the seventeen classrooms is presented in Table 2.11. Means and standard deviations are reported for subtests as well as total score. Data are presented for individual classrooms and for grade X ethnicity groups.

The scale score means and standard deviations for the standardization sample for Level C are as follows:

Table 2.11

Means and Standard Deviations of Spring 1981
CTBS Reading Performance for
Whole Class

Grade by Ethnicity and Classroom	n[a]	R VOC Mean	R VOC SD	R SENT Mean	R SENT SD	R PASS Mean	R PASS SD	R TOT Mean	R TOT SD
Grade 3 Chinese	(131)	321.25	50.41	276.12	26.20	276.16	27.64	315.08	45.58
3C1	(20	326.50	43.16	274.85	19.68	278.45	22.31	317.55	34.61
3C2	(16)	304.12	23.94	266.65	24.33	272.50	28.04	306.00	37.71
3C3	(20)	300.85	43.37	269.00	28.44	267.65	32.55	296.10	49.09
3C4	(27)	334.31	65.83	281.64	30.76	274.96	33.52	325.89	54.80
3C5	(22)	327.09	44.74	278.14	23.63	282.18	18.33	317.91	36.70
3C6	(26)	324.62	54.56	281.12	26.08	279.35	27.45	319.77	49.50
Grade 3 Hispanic	(114)	302.29	48.64	273.04	26.55	267.94	31.20	299.27	46.07
3S1	(17)	315.67	57.20	275.19	25.49	273.71	34.32	315.53	50.37
3S2	(16)	288.94	22.22	271.81	21.36	265.38	26.24	292.31	29.63
3S3	(11)	305.18	56.76	268.82	37.87	272.27	40.79	297.09	65.69
3S4	(23)	312.91	49.05	282.87	17.46	272.26	25.03	309.26	33.94
3S5	(27)	285.48	43.93	262.96	26.00	259.30	33.09	280.11	41.87
3S6	(12)	313.33	52.13	272.92	37.14	266.42	36.00	306.00	59.85
3S6	(8)	299.50	53.77	281.63	20.50	273.88	24.06	307.50	44.62

	n[a]	R VOC Mean	R VOC SD	R COMP Mean	R COMP SD	R TOT Mean	R TOT SD
Grade 5 Chinese	(37)	392.45	69.22	443.68	72.71	414.05	66.53
5C1	(21)	376.91	56.68	427.95	61.45	395.24	50.85
5C2	(16)	413.81	80.50	464.31	82.78	438.75	77.64
Grade 5 Hispanic	(45)	403.84	80.94	409.64	79.83	397.24	80.16
5S1	(24)	411.71	99.56	422.38	97.66	408.54	99.26
5S2	(21)	394.86	53.43	395.10	51.34	384.33	49.77

[a] The reported n corresponds to the number of subjects on whom the total score was calculated. In some cases, the number of subjects on whom subtest values were calculated is greater than the reported n.

Standardization Sample: Grade 2.7

Test	Mean	SD
R Voc	330	58.0
R Sent	288	31.2
R Pass	284	30.3
R Tot	326	59.2

As can be seen, the mean of only one of the 13 third grade classrooms, 3C4, was above the standardization mean for the vocabulary test. This was the only case in which any of the classes at the Grade 3 level obtained a mean score above that of the standardization sample. This classroom, 3C4, was also more variable than the comparison sample on the vocabulary test.

An examination of the levels of performance for the individual classes reported by stanines gives a more complete picture as to the levels of performance for the individual classes. These values are reported in Table 2.12. As can be seen, with the exception of 3S5 on "sentences" and "passages", all classes were functioning at an "average" level on all Reading subtests, receiving stanine scores of four, five, or six. (Stanine scores between one and three would signify below average levels of performance. Similarly, mean performance yielding stanine scores between seven and nine would be indicative of above average levels of achievement).

For Level 1, which was administered to our fifth graders in the Spring of 1981, the mean scores and standard deviations of the standardization sample are the following:

Standardization Sample: Grade 4.7

Test	Mean	SD
R Voc	413	72.8
R Comp	443	88.3
R Tot	422	78.6

In the fifth grade sample, only one classroom, 5C2, scored above the standardization sample mean. Examination of the standard deviations reveals that the two lower scoring classes, 5C1 and 5S2, were also the most homogeneous. The stanine equivalents of the fifth grade classroom means for Reading are also reported in Table 2.12. As with the third grade groups, the fifth grade classrooms are also all functioning at an average level as evidenced by their stanine scores of four or five.

Language Arts. Performance on the Language Arts measures produced some interesting results. In Table 2.13 these data are presented. The standardization sample means for Level C, administered to our third graders at the end of their second grade year, are reported below:

Standardization Sample: Grade 2.7

Test	Mean	SD
LA Spl	394	61.1
LA Mech	369	51.7
LA Exp	377	75.1
LA Tot	359	65.9

Comparisons of the classroom averages to the standardization sample means show that all thirteen third grade classes as wholes scored

Table 2.12

Performance of Whole Class on CTBS

Reading Reported by Stanine

Grade by Ethnicity and Classroom	Stanine Equivalents R VOC	R SENT	R PASS	R TOT
Grade 3 Chinese				
3C1	5	4	4	5
3C2	4	4	4	4
3C3	4	4	4	4
3C4	5	5	4	5
3C5	5	4	5	5
3C6	5	5	5	5
Grade 3 Hispanic				
3S1	4	4	4	4
3S2	4	4	4	4
3S3	4	4	4	4
3S4	4	5	4	4
3S5	4	3	3	4
3S6	4	4	4	4
3S7	4	5	5	4

	R VOC	R COMP	R TOT
Grade 5 Chinese			
5C1	4	5	4
5C2	5	5	5
Grade 5 Hispanic			
5S1	5	5	5
5S2	5	4	4

Table 2.13

Means and Standard Deviations of Spring 1981
CTBS Language Arts Performance for
Whole Class

Grade by Ethnicity and Classroom	n[a]	LA SPL Mean	LA SPL SD	LA MECH Mean	LA MECH SD	LA EXP Mean	LA EXP SD	LA TOT Mean	LA TOT SD
Grade 3 Chinese	(133)	380.91	51.58	390.61	74.85	372.41	53.18	360.27	66.06
3C1	(21)	382.10	38.14	435.62	53.83	371.52	42.39	377.38	52.41
3C2	(17)	387.71	45.43	384.71	73.53	357.00	38.42	349.24	41.13
3C3	(20)	383.45	46.57	377.90	85.43	349.85	47.80	348.60	67.88
3C4	(27)	368.46	66.94	376.43	94.83	365.22	71.86	352.15	95.66
3C5	(23)	373.87	52.35	381.52	51.44	387.04	30.94	354.83	41.60
3C6	(25)	393.68	49.50	391.24	66.82	395.96	57.96	376.52	67.86
Grade 3 Hispanic	(98)	338.29	52.78	360.63	78.52	361.24	56.69	326.61	67.34
3S1	(17)	351.38	63.93	372.82	72.07	381.00	48.30	346.00	62.45
3S2	(5)	330.40	26.74	318.33	50.55	346.50	22.98	298.20	30.60
3S3	(10)	341.00	61.85	347.00	91.63	345.00	76.35	312.40	94.94
3S4	(21)	343.82	47.32	378.41	65.33	363.33	39.86	334.86	40.57
3S5	(25)	326.63	44.43	342.04	87.44	348.52	56.98	312.88	65.02
3S6	(12)	337.92	64.23	381.00	90.58	377.33	73.76	338.67	98.29
3S7	(8)	330.13	50.86	366.75	71.62	360.75	70.85	324.13	67.24
Grade 5 Chinese	(38)	467.24	65.15	460.47	91.10	441.24	70.55	441.40	72.73
5C1	(22)	468.46	50.76	455.14	93.50	426.36	60.14	435.14	56.62
5C2	(16)	465.56	82.81	467.81	90.18	461.69	80.27	450.00	91.77
Grade 5 Hispanic	(43)	420.14	72.57	422.98	72.30	430.27	87.57	406.44	73.08
5S1	(24)	414.88	67.55	428.38	80.49	451.21	103.34	414.29	85.60
5S2	(19)	526.45	79.50	416.16	61.90	405.15	56.68	396.53	53.99

[a] The reported n corresponds to the number of subjects on whom the total score was calculated. In some cases, the number of subjects on whom subtest values were calculated is greater than the reported n.

Table 2.14

Performance of Classrooms on CTBS

Language Arts Reported by Stanine

Grade by Ethnicity and Classroom	Stanine Equivalents LA SPL	LA MECH	LA EXP	LA TOT
Grade 3 Chinese				
3C1	6	7	4	6
3C2	6	5	4	5
3C3	6	5	4	5
3C4	5	5	4	5
3C5	5	5	5	5
3C6	6	5	5	6
Grade 3 Hispanic				
3S1	4	5	5	5
3S2	4	3	3	3
3S3	4	4	3	4
3S4	4	5	4	4
3S5	3	4	4	4
3S6	4	5	4	4
3S7	4	5	4	4
	LA SPL	LA MECH	LA EXP	LA TOT
Grade 5 Chinese				
5C1	6	5	4	5
5C2	6	5	5	5
Grade 5 Hispanic				
5S1	4	4	5	4
5S2	5	4	3	4

below the mean for spelling, yet all six of the Chinese and three of the Hispanic classrooms scored above the mean on the mechanics test. Only the Chinese all-English classes (3C5 and 3C6) were above the mean on the expressions test. Two of the Hispanic classes were also found to perform at or above the standardization mean on the expressions test. Since the subtests are combined to form total score, it is not surprising to find that only three classes, all of them Chinese, performed above the comparison sample mean for the total Language Arts scale.

The stanine equivalents for the Language Arts measures are reported in Table 2.14. These values suggest that all of the third grade Chinese classrooms were functioning at an average level, for their stanine scores were between four and six. One class, 3C1, obtained a stanine score of seven on the mechanics subtest. For the third grade Hispanic classrooms, the stanines were predominantly four or five. Two Hispanic classes yielded stanines of three. Performance for 3S3 resulted in a stanine score of 3 on the expressions subtest while 3S2 performed at the third stanine level on mechanics, expression, and total score.

The variability within the classrooms is markedly similar as evidenced by the reported standard deviations. Four classrooms do not follow this pattern. 3S2 exhibits much less variability, but this is most probably due to the size of the sample for this class. The remaining three classes, 3C4, 3S3, and 3S6, are more variable when compared to the others. As mentioned previously, such differences may be due to the differences in composition of these classes.

The means for the standardization sample for Level 1 are given below. As can be seen, by comparing the performance of the fifth grade classes as reported in Table 2.13 to that of the standardization sample, 5C2 was the only class which as a group performed at that level on the total Language Arts test, and this class was below the mean on the expressions subtest. While 5C1 did score above the mean on the spelling subtest, it was below the mean for mechanics and expression. Neither of the Hispanic fifth grade classes scored at or above the standardization mean on any of the language measures. The means and standard deviations for the standardization sample are as follows:

Standardization Sample: Grade 4.7

Test	Mean	SD
LA Spl	440	70.2
LA Mech	461	88.2
LA Exp	470	76.7
LA Tot	440	76.7

The stanine scores, as reported in Table 2.14, show that although the classes were performing below the mean of the standardization sample, they were performing at levels which would be regarded as average for their grade. Only one class, 5S2, failed to fall within this "average" range for all subtests. The mean score for this class on the expressions subtest was equivalent to a stanine score of three.

Mathematics. The present discussion of CTBS achievement of the classrooms taken as wholes concludes with a discussion of performance on the CTBS Mathematics measures. Again for comparative purposes, the means and standard deviations of the standardization sample are given

below.

Standardization Sample: Grade 2.7

Test	Mean	SD
M Comp	305	36.9
M Con&App	255	27.8
M Tot	308	42.4

The means and standard deviations for each of the seventeen classrooms is reported in Table 2.15. All of the Chinese third grade classes averaged well above the mean of the standardization sample on the subtests and the total score. Among the Hispanic classes, only 3S1 and 3S4 scored above the standardization mean on the computations test. 3S1, 3S2, and 3S6 scored above the mean for the concepts and applications test, and the remaining class averages were within six points of the standardization mean. 3S1, 3S4, and 3S6 had total scores which exceeded the standardization sample mean. The remaining classes were within 15 points of the total mean value.

The stanines, as reported in Table 2.16, are particularly useful for characterizing the level of performance for the classes on the Mathematics measures. The Chinese sample included classes where performance on the math measures could be considered above average for this grade level. Four of the six Chinese classrooms had stanine scores of seven. Two of these classes, 3C3 and 3C4 obtained stanine averages of seven for total score. In the Hispanic sample, all of the classes were performing at levels which could be considered average since they all obtained stanine scores of five or six.

Table 2.15

Means and Standard Deviations of Spring 1981
CTBS Math Performance for
Whole Class

Grade by Ethnicity and Classroom	n[a]	M COMP Mean	M COMP SD	M CON & APP Mean	M CON & APP SD	M TOT Mean	M TOT SD	Mean	SD
Grade 3 Chinese	(134)	338.18	31.83	269.32	25.80	340.49	34.73		
3C1	(21)	343.67	37.33	269.00	30.94	340.10	38.38		
3C2	(17)	324.77	39.65	270.77	24.60	333.65	43.54		
3C3	(20)	343.50	21.15	273.40	22.74	347.70	27.04		
3C4	(28)	346.11	18.86	269.96	25.57	346.00	26.22		
3C5	(22)	325.30	37.23	265.09	28.40	330.77	39.76		
3C6	(26)	341.27	31.02	268.39	24.06	342.00	34.75		
Grade 3 Hispanic	(115)	306.34	32.10	255.98	24.79	308.95	35.38		
3S1	(20)	319.75	26.91	260.00	20.17	321.90	26.80		
3S2	(16)	302.38	22.10	256.94	19.41	306.50	25.06		
3S3	(11)	303.91	41.08	251.82	27.86	305.46	44.11		
3S4	(22)	316.96	32.23	254.23	25.35	316.00	36.46		
3S5	(26)	296.22	32.96	251.19	23.29	300.77	35.16		
3S6	(12)	302.83	28.84	270.00	33.47	308.00	45.72		
3S7	(8)	294.25	39.39	249.13	28.24	294.88	38.39		

	n[a]	M COMP Mean	M COMP SD	M CON Mean	M CON SD	M APP Mean	M APP SD	M TOT Mean	M TOT SD
Grade 5 Chinese	(38)	419.24	30.77	432.90	63.61	422.71	72.86	413.50	42.75
5C1	(22)	417.84	31.84	432.27	54.71	406.96	64.72	405.05	32.49
5C2	(16)	421.19	30.15	433.75	76.09	444.38	79.49	425.13	52.73
Grade 5 Hispanic	(43)	411.79	50.00	392.80	56.88	381.46	53.83	398.47	52.72
5S1	(24)	412.54	56.89	370.31	60.42	364.00	57.13	400.46	63.29
5S2	(19)	410.84	41.20	411.74	47.35	396.16	47.47	395.95	36.81

[a] The reported n corresponds to the number of subjects on whom the total score was calculated. In some cases, the number of subjects on whom subtest values were calculated is greater than the reported n.

Table 2.16

Performance of Classrooms on CTBS

Mathematics Reported by Stanine

Grade by Ethnicity and Classroom	M COMP	M CON & APP	M TOT
Grade 3 Chinese			
3C1	7	6	6
3C2	6	6	6
3C3	7	6	7
3C4	7	6	7
3C5	6	6	6
3C6	7	6	6
Grade 3 Hispanic			
3S1	6	5	6
3S2	5	5	5
3S3	5	5	5
3S4	6	5	5
3S5	5	5	5
3S6	5	6	5
3S7	5	5	5

	M COMP	M CONC	M APP	M TOT
Grade 5 Chinese				
5C1	6	5	5	5
5C2	6	5	6	6
Grade 5 Hispanic				
5S1	6	4	4	5
5S2	6	5	5	5

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The performance of the fifth grade classrooms on the CTBS math tests is also reported in Table 2.15. The values reported for 5S1 require some explanation. As the footnote explains, the reported "n" corresponds to the number of students for whom the total score was calculated. For eight of the students in the 5S1 class, scores were not available for either the concepts or the applications subtest. The scores of these eight students were included however in the calculation of the means for the computation subtest as well as for total score. This fact explains why 5S2 has a reported total score mean lower than that of 5S1 even though the subtest means for 5S2 exceeded those of 5S1 on the concepts and applications subtests.

All Grade 5 classes performed better than the standardization sample on the computations subtest. The two Chinese classes were above the mean for both the concepts subtest and math total, and 5C2 had a average mean on the applications test which exceeded the standardization mean. The means and standard deviations of the standardization sample are as follows:

Standardization Sample: Grade 4.7

Test	Mean	SD
M Comp	390	49.0
M Con	415	73.0
M App	414	77.6
M Tot	394	59.1

As the stanine equivalents of the mean scores (reported in Table 2.16) suggest, all of the fifth grade classes were functioning at an average level (with stanine values between four and six). In fact,

only 5S1 had any stanine scores below five. The three other fifth grade classes had average stanine scores on all math tests of five or six.

In summary, these data suggest that overall the classrooms included in this study were functioning at an average level. Few classes had mean stanine scores of three or lower, which would have suggested a below average performance. Likewise, few of the classes had average stanine scores of seven or above which would have suggested above average performance.

2.5. Characterization of the Target Subject Sample

In selecting the target subjects for detailed study during the data collection year, we wanted to find classrooms with approximately ten children whose first language was either Cantonese or Spanish and who had had minimum exposure to English before coming to school. Because of this latter goal, wherever possible, we selected foreign-born as opposed to U.S.-born children. In addition, we looked for students in bilingual or all-English classrooms who had experienced enough exposure to English in school (two to three years) to make it possible for them to use English as the language of instruction, at least to some extent, during the year in which we would monitor their progress. Fourth, we tried to find children who had been placed consistently in either bilingual or all-English classrooms. Finally, parents of children selected on these grounds had to agree to allow us to study their children, to observe and test them periodically during the school year. In order to obtain enough subjects for study in some

of the classrooms we had decided to study, departures had to be made from these selection goals. In general the selection criteria were relaxed more for the fifth grade than for the third grade sample, since the data at this grade level was seen more as an in-depth case study comparison of one bilingual and one all-English class in each language, rather than as a parallel to the method comparison being done at the third grade level.

Because of classroom rearrangement by schools after the beginning of the year and because of subject attrition during the course of the school year, the number of subjects in participating classrooms varied. Table 2.17 displays the distribution of the 157 target subjects remaining in participating classrooms at the end of the year, their mean age and age range, and the relative numbers of male and female subjects. Table 2.17 also summarizes these statistics for the four grade X ethnicity groups and for the grades and the sample as a whole.

As mentioned above, wherever possible, foreign-born children rather than U.S.-born children were selected as target subjects. This selection rule was based on the assumption that overall children not born in this country would have less exposure to English and American culture before starting school than children born in the U.S. Table 2.18 summarizes data concerning place of birth of target subjects in each of the classrooms and in the grade X ethnicity groups in our study. Since it is possible that among the foreign born some places of birth would afford more early exposure to English and western culture than others, a breakdown of exact place of birth among the foreign

Table 2.17

Distribution of Subjects in Final Target Sample
by Classroom, and Grade by Ethnicity Grouping

Grade by Ethnicity and Classroom	Total Number	Total Females	Total Males	Ages as of September 1981 Mean	Range
Grade 3 Chinese	60	26	34	8.47	7-9 to 10-1
3C1	12	3	9	8.40	7-11 to 9-5
3C2	9	3	6	9.31	7-9 to 10-1
3C3	8	4	4	8.23	7-9 to 8-9
3C4	10	3	7	8.31	8-0 to 9-0
3C5	11	8	3	8.42	7-9 to 9-5
3C6	10	5	5	8.19	7-10 to 8-8
Grade 3 Hispanic	57	26	31	8.60	7-3 to 10-6
3S1	10	3	7	8.53	7-11 to 9-7
3S2	11	8	3	8.30	7-9 to 9-8
3S3	5	2	3	8.83	8-6 to 9-3
3S4	12	5	7	8.87	8-1 to 10-5
3S5	8	4	4	8.66	7-10 to 10-6
3S6	4	1	3	8.85	7-10 to 9-6
3S7	7	3	4	8.30	7-3 to 9-1
Grade 5 Chinese	19	8	11	10.46	9-10 to 12-0
5C1	11	4	7	10.62	9-11 to 12-0
5C2	8	4	4	10.25	9-10 to 10-0
Grade 5 Hispanic	21	9	12	11.28	9-4 to 13-0
5S1	10	6	4	11.15	9-4 to 12-5
5S2	11	3	8	11.39	9-10 to 13-0
Total 3rd	117	52	65		
Total 5th	40	17	23		
Total All	157	69	88		

Table 2.18

Distribution of Target Subjects According to Place of Birth

Grade by Ethnicity and Classroom	(N)	U.S.	Mexico	Puerto Rico	Unclass.	China	Hong Kong	Vietnam	Burma
Grade 3 Chinese	(60)	13 (21.7)				14 (23.3)	18 (30.0)	14 (23.3)	1 (1.7)
3C1	(12)	2				3	4	3	
3C2	(9)	-				1	-	7	1
3C3	(8)	-				5	2	1	
3C4	(10)	3				2	5	-	
3C5	(11)	5				2	3	1	
3C6	(10)	3				1	4	2	
Grade 3 Hispanic	(57)	25 (43.9)			1 (1.8)				
3S1	(10)	4							
3S2	(11)	7			1				
3S3	(5)	2							
3S4	(12)	4							
3S5	(8)	4							
3S6	(4)	1							
3S7	(7)	3							
Grade 5 Chinese	(19)	3 (15.8)				-	10 (52.6)	6 (31.6)	
5C1	(11)	-				-	6	5	
5C2	(8)	3				-	4	1	
Grade 5 Hispanic	(21)	3 (14.3)	16 (76.2)	2 (9.5)					
5S1	(10)	-	10	-					
5S2	(11)	3	6	2					

born has been included.

Though one goal was to find children with two to three years of exposure to English in the school, this was not always possible. A decision was made, for example, not to eliminate from the study children who had been retained in earlier grades for various reasons. In the fifth grade classes, especially, it was difficult to find enough children meeting this criterion of two to three years of school experience. Thus the target fifth grade students in general had more exposure to English in the school environment than did the third graders. In addition there was more variability on this dimension at the fifth grade than at the third grade. In one case, a fifth grade subject who was essentially a non-English speaker was included for study, since the number of students who fit the ideal criteria were so few in that classroom. Table 2.19 displays data on the mean years and range of school experience for subjects in the various classrooms and in the grade X ethnicity groups. This table also contains the mean years and range of type of school experience for the children in target classrooms. As can be seen from this data, in order to obtain a large enough sample for the study, it was necessary once again to depart somewhat from the goal of finding children with consistent school backgrounds in either bilingual or all-English classrooms. In making such departures, less weight was given to the type of kindergarten class children had been placed in than was given to the type of first and second grade class they experienced.

Table 2.19

Amount and Type of Education in American Schools for Target Subjects

Grade by Ethnicity and Classroom	(N)	Total Number of Years in School		Years in Bilingual Class		Years in All-English Class	
		Mean	Range	Mean	Range	Mean	Range
Grade 3 Chinese	60	2.4	1-4				
3C1	(12)	2.5	2-3	2.5	2-3	-	-
3C2	(9)	1.7	1-2.5	1.7	1-2.5	-	-
3C3	(8)	2.0	1.3-3	1.7	1.3-3	0.3	0-2
3C4	(10)	3.0	2-4	3.0	2-4	-	-
3C5	(11)	2.5	1-3	0.3	0-1	2.2	1-3
3C6	(10)	2.3	1-3	0.1	0-1	2.2	1-3
Grade 3 Hispanic	56	2.8	1-4	2.7			
3S1	(10)	2.9	2-3	2.7	1.5-3	0.3	0-1.5
3S2	(11)	3.1	2-4	3.1	2-4	-	-
3S3	(5)	2.5	1.5-4	2.5	1.5-4	-	-
3S4	(12)	3.0	2-4	2.8	2-3	0.2	0-1
3S5	(8)	2.5	1-3	-	-	2.5	1-3
3S6	(4)	3.25	3-4	0.8	0-3	2.5	0-4
3S7	(6)[a]	2.3	1-3	0.2	0-1	2.2	0-3
Grade 5 Chinese	19	3.9	1-5				
5C1	(11)	4.0	2-5	4.0	2-5	-	-
5C2	(8)	3.8	1-5	0.3	0-1	3.5	1-5
Grade 5 Hispanic	21	3.6	0-6				
5S1	(10)	3.9	0-6	2.4	0-4	1.7	0-4
5S2	(11)	3.3	2-5	0.6	0-2	2.6	1-5

[a] Background information not available in school records for one subject in this class but will be available when parent interview information is coded.

2.6. Non-English-Speaking Subject Sample

In the modification of the design of this study, one change that was made to the work undertaken during the 1981-82 school year was to add a second category of subjects to those already described that were being studied in the third and the fifth grade classes. This group consisted of students in each of the selected classes who began the study year (September, 1981) or came into a classroom being studied during the year with little or no English at all, or those who had been in the school program only part of a year prior to Fall, 1981. Thus the criteria for inclusion in our NES sample were: current enrollment in existing classrooms, first language consisting of Spanish or Cantonese, little or no exposure to English prior to September 1981, and less than a year in a bilingual or all-English classroom.

As Table 2.20 indicates, the 22 NES students were unevenly divided among the existing classrooms being studied. There were more than twice as many Chinese NES subjects as Hispanic NES subjects at the third grade (12 versus 5), but there were more Hispanic NES than Chinese NES subjects at the fifth grade (4 versus 1).Seventeen of the twenty-two NES subjects were in bilingual classrooms, and 14 out of this 17 were in bilingual third grade classrooms. This table also indicates how evenly divided this NES sample was in terms of the relative numbers of boys and girls it contained. The mean age and age range of these subjects have not been included, since this information was not available for most of the students at the time of data collection.

Table 2.20

Distribution of NES Subjects by Classroom

and Grade by Ethnicity

Grade by Ethnicity, Classroom Type, and Classroom	Total n	Number of Females	Number of Males
Grade 3 Chinese	12	6	6
Bilingual	9	4	5
All-English	3	2	1
3C1	0	0	0
3C2	5	2	3
3C3	2	1	1
3C4	2	1	1
3C5	3	2	1
3C6	0	0	0
Grade 3 Hispanic	5	3	2
Bilingual	5	3	2
All-English	0	0	0
3S1	1	1	0
3S2	0	0	0
3S3	2	1	1
3S4	2	1	1
3S5	0	0	0
3S6	0	0	0
3S7	0	0	0
Grade 5 Chinese	1	0	1
Bilingual:5C1	1	0	1
All-English:5C2	0	0	0
Grade 5 Hispanic	4	2	2
Bilingual:5S1	2	1	1
All-English:5S2	2	1	1

CHAPTER 3

TEACHERS AND INSTRUCTIONAL PRACTICES: THE INDEPENDENT VARIABLES

This chapter consists of two major parts. In the first (Section 3.1), we describe the teachers and the classroom programs involved in the study according to three general domains. These domains are:

(1) Characteristics of the teachers: their language background, experience, and the support systems that were available to them (Section 3.1.1).

(2) The organizational structure of instructional activities in their classes, and how much time each teacher devoted to different types of activities each day (Section 3.1.2).

(3) The teacher's use of language for instructional purposes; e.g., the use of English in class, rather than the students' L1; the functions served by each language, and the extent to which teachers kept the two languages separate rather than translating (Section 3.1.3).

In the second part (Section 3.2) the instructional practices that we selected for examination as independent variables, and the methods we followed in assessing aspects of those practices are discussed.

3.1. Teachers and Classrooms

3.1.1. Teacher Characteristics

Altogether, a total of twenty teachers were involved in the study during the year of data collection, although only nineteen can be counted as full participants. The teacher of one of our fifth grade classes (for Spanish speakers) was given a different teaching assignment two and a half months after the beginning of the school year; we were able to continue studying the class through the school year after the replacement teacher agreed to participate in the study. The 19 teachers ranged in age from the mid-twenties to the mid-fifties, the majority of them in their thirties and forties. Most of them had had several years of teaching experience in their current schools, although the one that replaced the teacher after two and a half months was a first year teacher. In all, these teachers covered 19 classes, although only 17 of these were actually involved in the study. 9 of the 17 classes served Spanish speaking students, the 10 others served Cantonese students. It will be recalled from the site descriptions in Chapter 2 that two of the Cantonese classes were team-taught. In both cases, one Cantonese bilingual teacher and one English-speaking monolingual teacher team-taught two bilingual classes. Only one in each pair of classes participated in the study. In each case, the English monolingual teacher handled the English reading and language arts portion of the curriculum, and the bilingual teacher managed mathematics, social studies, science and whatever L1 instruction that was provide for the students. In one, the students changed teachers midday, and

in the other, they alternated between teachers by days.

In general, the teachers in the classes that were designated as "bilingual" by the schools were bilingual (the exception being the two English monolingual teachers who were teamed with the bilingual teachers in the just mentioned Cantonese bilingual program. Table 3.1 will remind the reader of the designation of the 17 classes:

3.1.1.1. Background of Teachers

These bilingual teachers varied in their L1 proficiency (from what we could determine by observation), and in the extent to which

Table 3.1

Language Backgrounds of the 19 Teachers in the Study

Class	Group	Grade	Designation	Teacher(s)	Language
3C1	Chinese	3	Bilingual	TC1A &	English
				TC1B	Bilingual (E=L2)
3C2	Chinese	3	Bilingual	TC2	Bilingual (C=L2)
3C3	Chinese	3	Bilingual	TC3A &	English
				TC3B	Bilingual (E=L2)
3C4	Chinese	3	Bilingual	TC4	Bilingual (E=L2)
3C5	Chinese	3	All-English	TC5	English
3C6	Chinese	3	All-English	TC6	Bilingual (E=L2)
3S1	Hispanic	3	Bilingual	TS1	Bilingual (E=L2)
3S2	Hispanic	3	Bilingual	TS2	Bilingual (S=L2)
3S3	Hispanic	3	Bilingual	TS3	Bilingual (E=L2)
3S4	Hispanic	3	Bilingual	TS4	Bilingual (S=L2)
3S5	Hispanic	3	All-English	TS5	English
3S6	Hispanic	3	All-English	TS6	English
3S7	Hispanic	3	All-English	TS7	English
5C1	Chinese	5	Bilingual	TC7	Bilingual (E=L2)
5C2	Chinese	5	All-English	TC8	English
5S1	Hispanic	5	Bilingual	TS8	Bilingual (S=L2)
5S2	Hispanic	5	All-English	TS9	English

they used the L1 in their teaching. As Table 3.1 shows, all of the classes that had been designated as bilingual had bilingual teachers. All but one of the Cantonese bilingual teachers were native speakers; the one who was not (TC2) had grown up in a home in which Cantonese was spoken, but he did not learn it until later in life. This teacher's command of Cantonese was adequate for social interaction, but it was not so for teaching. In fact he rarely did use Cantonese in class except when he was working with individually with non-English speaking students. Only two of the Spanish bilingual teachers (TS1 and TS3) were native speakers of Spanish. The other three had learned Spanish as a second language largely through formal study. Two of them (TS2 and TS8), however, were as proficient and fluent as native-speakers in Spanish since they had lived in Spanish-speaking countries. The third (TS4) was far less proficient, but was able to communicate more or less adequately in Spanish.

3.1.1.2. Teachers' Proficiency in English

The English language skills of the teachers varied both between native and non-native English speakers, and within the two groups. Although neither the teachers' English skills nor their L1 skills were not formally assessed, differences in comprehensibility and grammatical correctness were noted by members of the research team who had the opportunity to visit the classes. Objective ratings of the teachers' language skills were done on the basis of audio and video tapes that were collected in classrooms. On the whole, most of the teachers were fully competent in their English skills. All but one of the bilingual teachers were more proficient in English than in the other language,

and that teacher was completely fluent in English if not altogether "grammatical" in her usages. All but one of the teachers for the all-English classes were native speakers of English, the one who was not a native-speaker (TC6) was nevertheless completely proficient in its use, although her pronunciation of English was not altogether native-like.

3.1.1.3. Support Services for Teachers

Conditions varied somewhat as to the availability of aides and other in-class support services. All of the teachers had the help of at least one instructional aide, but the amount of time they could count on such help varied widely. Several teachers had aides in the classroom for only one hour each day. At the other extreme was one teacher who had as many as 4 additional persons helping in the classroom several times a week. This fifth grade teacher had the help of a bilingual aide to tutor the NES and LES students in her classroom for two and a half hours each day, a Title 1 aide that tutored in math and social studies one and a half hour each day, a student teacher who worked in the class for 10 hours per week, a college student intern (pre-teacher training) three hours each week, and math and reading labs for her students for thirty minutes each of four days during the week. In contrast, another fifth grade teacher at a different school had one aide who worked with the three non-English speaking Laotian students in her class for just three hours each week, and virtually no other assistants. Differences such as this not only affected the efficiency of the teachers, they also affected the amount of contact that the LEP students had with adult English-speakers who could

provide them with exposure to the language to be learned.

Several teachers had interns (teacher trainees) in their classrooms during the study year, and these trainees provided some help while they were there. On the average, however, teachers could count on about 3 hours of teaching assistance each day. Only a few teachers had full-time aides. Typically, the aide was a bilingual (although not always in the "right" language), where the teacher was not, and in most cases, these aides were assigned to work with the students in the class who knew the least English. The assignment of aides to classes was sometimes done in strange and mysterious ways: in one school the aide for a Spanish bilingual class was a Tagalog-English bilingual. She could provide neither native-language support to the Spanish speakers in the class, nor could she provide useful English support for them since her English was heavily influenced by Tagalog and was therefore not a suitable model for the students to base their learning of English on. In some of the English-only classes serving students from a variety of language backgrounds, the aides seldom knew more than one of the L1's spoken by the NES and LES students. As a consequence, only a few students received any native language support in such classes.

On the whole, the aides tutored the students in their native language when it was possible, and in English when it was not. The role of the instructional aides varied considerably across classes. In some classes, the aides functioned as auxiliary teachers, and regularly offered group instruction in a variety of subjects. In a couple of classes, the aides did the bulk of the L1 teaching: they provided

whatever L1 reading and writing instruction the students were given. In both cases, the aides were fully qualified teachers (they had been teachers in their home countries before coming to the U. S.). In two other classes, the teachers turned over the responsibility for working with the least English proficient students to their aides entirely, and the teachers themselves rarely interacted with them. In some classes, the aides were regarded strictly as "helpers": they graded papers, made dittoed copies of worksheets for the teacher, prepared materials for instructional activities, and cleaned up after them. These aides had no role at all in working with the students. (For further discussion of the role of aides, see Chapter 5, which reports on the NES substudy.)

3.1.1.4. ESL and Other Pullout Services

In addition to the aides that worked in the study classrooms, all of the teachers enjoyed additional outside support services. In one school from which 3 of the 17 classes were drawn, math and reading labs were available for students to attend for special help. Many of the students in our target classes took advantage of these labs which were designed to provide whatever help was needed in those subjects, including help with the language. There were also an hour-long library period each week in most of the schools, wherein the whole class visited the school library, and either were provided with some sort of specially guided literary experience by the librarian, or were given opportunities to select books for independent reading, to look at displays, or to use materials that were set up at learning centers.

Pullout ESL instruction constituted yet another kind of support service for teachers; such services were available for students in 8 of the 17 classes. What this instruction consisted in, however, varied from place to place. The ESL pullout classes we observed were of three major types: a) those that emphasized English phonics and reading using early or remedial reading materials, or packaged materials such as "DISTAR"; b) those that offered NES and LES students language help and tutoring on the work assigned to them by their regular classroom teachers, and little else; and finally, c) those that actually provided formal instruction in English, usually in the form of pattern or vocabulary drills based on materials taken from sets such as the "IDEA" Kit or "Peabody Oral Language Development Kits".

The amount of pullout services available to students varied considerably across sites. In one school, the most needy students were given four 45 minute ESL lessons each week. In another school, students received only two 20 minute lessons per week. The services that were available to individuals depended somewhat on how much help they needed, but more critically, on how great the demands were for such services at each school. The greater the number of non-English speaking newcomers there were at a school, the fewer services any individual student could hope to receive there. The schools were not able to add classes as needed during the school year, apparently. As new students arrived, they were packed into already tight ESL schedules. Oftentimes, newcomers who knew no English at all could be accommodated only by moving other students around or out of the ESL program altogether. Students who knew barely enough English to get by were

dropped from classes, or they were given fewer sessions per week than were helpful to them.

In the case of one Chinese bilingual class (3C2), pullout ESL services were available for the most limited speakers of English at the beginning of the school year, but they were dropped from the program after 3 months because space in the available ESL classes had to be made for the many new non-English speaking refugee students that were showing up at the school. The bilingual classes in the school were filled to capacity, and the newcomers were being placed in English-only classes. Top priority for pullout ESL instruction was given to the NES students in the English-only classes because their teachers were thought to be in greater need of language support than were the teachers in the bilingual classes. The teachers in the all-English classes were not geared up to provide language instruction as a rule. If the NES and LES students were to get any instruction in ESL, they had to get it elsewhere. The bilingual program, on the other hand, was seen as having been set up just to provide the specialized language instruction needed by such students, and the teachers in those classes were expected to be capable of providing the ESL instruction needed by their NES and LES students. There was some sort of ESL instruction provided in most of the bilingual classes, although what was called "ESL" varied considerably, as did the amount of time and thought devoted to such instruction, just as in the pullout classes.

3.1.2. Activity Structure in the Classrooms

The 17 classrooms in the study varied according to the ways their teachers chose to structure instructional activities in them. This had the effect of varying the amount and kind of language input and experience available to the LEP students in a number of ways. As will be discussed later in this chapter, the acquisition and development of second language skills depends on adequate exposure to the target language as it is used by proficient speakers, and on opportunities to practice using it in direct communication with speakers. Such linguistic input serves as the data or evidence on which learners are to base their learning of the language itself. In any classroom situation, there are two major sources of linguistic input for LEP students: from adults, that is, the teachers and personnel in the class who can interact with the LEP students either individually and or in groups, in formal instructional activities or in informal activities; and from English-speaking or bilingual classmates, either in group learning activities, or in individual contacts having to do with schoolwork or otherwise. How the class is organized, and how instructional activities are structured can greatly affect the quantity and quality of input from both sources. Where classes and instructional activities are organized in ways that constrains or otherwise limits the kind of contact that students can have with each other, LEP students will get little input from classmates. The amount of language input available to them from teachers depends very much on how instructional activities, both formal and informal, are organized. Different activity structures or lesson organizations result in dif-

ferent amounts and types of teacher language, and in the size of the audience for that language.

Activity structure can be described in a number of different ways that are relevant to linguistic input. For example, it can be categorized according to the way in which the students in the class are subdivided for instruction. There are three basic alternatives. The first can be described as "whole class" instruction whereby the teacher has everyone in the class engaged in the same activity at the same time, and where the teacher talks to everyone at once. In this case, every student in the class is exposed to everything that the teacher says, and presumably, what is said constitutes input for all. The amount of practice students get in using the language themselves in this type of activity depends on the kind and amount of verbal participation teachers invite from them. The second common arrangement can be described as "small groups", wherein students are subdivided into subsets for instruction, and the teacher works with just one group at a time, while the other members of the class work either on their own, or in groups without a teacher. Often, the teacher assistant supervises the work of the students who are not involved in group instruction with the teacher. This is a common setup both for reading and math instruction where a class may be subdivided into as many as five groups, and the teacher divides his or her time with the groups. In such instructional arrangements, how much teacher input individual students get depends on how frequently their groups meet with the teacher, for how long. Each group works with the teacher for only a percentage of the time (say, a fifth, a fourth, a third, etc.,) of the

time devoted to that activity, depending on how many groups the teacher has to work with. The other popular configuration is "individual instruction" where students are given assignments to do on their own; these seatwork assignments can involve workbook exercises, self-paced supplemental materials, journal or story writing, self-selected reading materials, and the like. In this case, there is little interaction with the teacher; teachers may interact with individual students when they ask for assistance, or in the course of monitoring the work of students while they work, but otherwise there is no "formal instruction" during such activities. Categorizing instructional activities according to the size of the group involved can give a rough picture of how much teacher input students get in classes, but we also recognize that it can be misleading too. During instructional activities that are organized around individual work, teachers can and often spend a lot of time working with individual students who need special help. This kind of one on one teaching can be extremely useful to students, both for the specially tailored help they are given on their schoolwork, and for the language input that they receive. When teachers talk to students individually, the talk is much more likely to be adjusted to a level that is appropriate for them than is the language teachers use in group lessons. One of the reasons for giving students individual work assignments is that this then frees the teacher to provide this kind of individual assistance.

A second major way of characterizing the structure of instructional activities with respect to amount and type of linguistic input they provide for language learners has to do with the extent to which

they are directed by teachers. There are various degrees of teacher direction. At one extreme, there are those activities that are quite free of teacher involvement. Students are given work to do on their own or in groups, and while this work is monitored by the teacher, the teacher does not make any presentations, or does not otherwise become the center of the activity. Students may consult the teacher, or the teacher may check on the students while they are working, but in general, the teacher is not directing the activity. At other extreme, there are activities that can be described as "teacher-directed", lessons which are teacher structured and paced, wherein the teacher presents materials to be covered, and leads the participants (whole class, group or individuals) in discussion of the materials. In such activities, the language used by teacher in presenting the materials to be learned is a potential source of linguistic input for the LEP students. Whether or not it works as input depends on what language is used, and just how it is used (more or this later). In between these two extremes are activities involving various degrees of teacher supervision. In some, teachers may make a short presentation, then give the students individual or group assignments to do on their own for a time, and then direct the class in discussing the activity.

In our efforts to characterize and compare the instructional programs in the 19 classrooms in the study (rather, the instructional practices experienced by the 17 classes involved in the study) we looked at the observational data we had collected of activity structure both in terms of grouping and in the degree to which they were teacher structured. Let us consider first the findings of our exami-

nation of grouping practices. As Table 3.2 shows, the 19 teachers varied in the degree to which they tended to structure classroom activity.

The figures given on Table 3.2 were computed by sampling instructional activities recorded during several different days of observations in each of the 19 teacher's classrooms. The sampled activities consisted of a minimum of 207, and a maximum of 496 total minutes of observations per classroom. Recording materials included audio and video recorded lessons, and field notes allowed us to compute the amount of time that students were involved in "whole class", "small

Table 3.2

Percentage of Time Devoted to Three Different Types of Activity Groupings Across Sites

Class	Teacher	WholeClass	SmallGroup	Individual	Mins. sampled
3C1	TC1A	39%	19%	42%	246
	TC1B	30%	45%	25%	283
3C2	TC2	24%	30%	46%	310
3C3	TC3A	17%	51%	32%	235
	TC3B	36%	28%	36%	215
3C4	TC4	30%	22%	48%	424
3C5	TC5	49%	32%	19%	439
3C6	TC6	22%	12%	66%	455
3S1	TS1	27%	37%	36%	487
3S2	TS2	37%	43%	29%	485
3S3	TS3	43%	12%	45%	270
3S4	TS4	44%	31%	25%	496
3S5	TS5	48%	30%	22%	462
3S6	TS6	35%	48%	17%	255
3S7	TS7	26%	14%	60%	255
5C1	TC7	27%	39%	34%	449
5C2	TC8	37%	24%	39%	533
5S1	TS8	38%	28%	34%	485
5S2	TS9	35%	26%	39%	280

group", and "individual" activities in each site. As shown on Table 3.2, all of the teachers made use of the three grouping patterns in structuring activities. However, differences between the teachers serving the Chinese students and those serving Hispanic students can be seen when percentage of time spent in different arrangements are compared. 7 of the 9 teachers of the Hispanic classes spent more than 35% of the time in "whole class" activities. In contrast, only 4 of the 10 teachers in the Chinese classes spent as much time in such activities. The lowest percentage of time in whole class activities was 17% in Teacher TC3A's classroom, and the highest was 49% in TC5's. In general, the teachers in the Chinese classes tended to preferred individual activities for their students: this arrangement was used more than 35% of the time by 6 of the 10 teachers in Chinese classes, while only 4 of the 9 teachers in Hispanic teachers used it as frequently. Small group arrangements were about equally popular with the teachers of the Chinese and Hispanic classes. They were used more than 35% of the time by 3 teachers from each group.

From the table, it can be seen that two configurations of activities were common to a number of teachers. A pattern consisting of more whole class and small group activities than individual activities can be seen for 6 teachers (TC1B, TC5, TS2, TS4, TS5 and TS6). A second pattern consisting of a preference for either whole class or individual activities can be seen in the classrooms of another 7 (TS3, TS8, TS9, TC1A, TC3B, TC4, and TC8). Students in those classrooms were involved in small group activities less frequently than they were in whole class or individual activities. A less common configuration

consisted of more frequent use of small group and individual activities than whole class activities. This can be seen in the classes of three teachers (TS2, TC3A, TC7). Finally, two teachers (TC6 and TS7) made heavier use of individual activities than any other type of arrangement.

Activity structure when looked at in terms of grouping, however, can be misleading, especially if we are concerned with what it can tell us about the amount of exposure LEP students can get to English in various classrooms. The reason we considered activity structure from the standpoint of grouping was that we assumed that children in different classrooms are exposed to widely differing amounts of active involvement with teacher and peer language input over the school year, based on the way activities are organized. This examination indeed gave us a rough comparison of different organizational patterns that existed across our study classrooms. It did not, however, give us a very accurate picture of how much contact individual students had with the users of the target language. The time students spent in whole class and in small group was not necessarily spent in shared verbal activity; in fact, it was quite frequently spent in individual work. Writing, for example, was a "whole class" activity in many classes; during the period devoted to this subject, all of the students worked by themselves in their journals or on essays. According to our criteria, we had to categorize such lessons as "whole class activities" since indeed everyone in the class had been given the same assignment, and they were working on it at the same time.

What we discovered when we took a second look at activity structure, this time by the amount of time individual students spent in teacher directed instructional activities versus self-directed activities gave us a quite different picture of the instructional experience of the students in our seventeen classes. The percentage of time they were engaged in instructional activities that did not involve teacher intervention or direction was always greater than the figures shown on Table 3.2 for "individual" activities. In some classes a substantial part of the small group and whole class activities consisted, in fact, of assignments which were given to students to work on by themselves. Table 3.3 shows how the 17 classes compared in activity structure looked at in terms of teacher involvement.

The figures on this Table 3.3 are given for classes rather than for teachers, since the aim in this analysis was to determine how much actual time our LEP subjects spent in instructional activities in which they were exposed to the kind of linguistic and academic input teachers could provide them over the course of an average school day. In order to derive figures for the two team taught classes (3C1 and 3C3) each of which split its time between two teachers (alternate days for one, and alternate sessions for the other), times were taken from observations spanning three or four days and averages were computed from them. The method we followed in arriving at the figures presented on Table 3.3 was to record the amount of time our target subjects spent in teacher directed instruction, self-directed seatwork, or collaborative group work. Because there was little evidence of the third category of activity, it was combined into the self-directed work

Table 3.3
Time* Spent by Students in Teacher Directed
vs. Self-Directed Activities in the 17 Classes

Class Code	Tot.Inst Mins/Day	TchrDirect WC* or Grp	SelfDirect SW* or Grp	Transition/Pullout or Unaccounted
3C1**	260	61mins (23%)	153 (59%)	47 (18%)
3C2	225	61 (29%)	114 (51%)	45 (20%)
3C3**	260	123 (47%)	127 (49%)	10 (4%)
3C4	225	72 (32%)	133 (59%)	20 (8%)
3C5	225	115 (51%)	100 (44%)	10 (4%)
3C6	225	10 (4%)	210 (93%)	5 (2%)
3S1	225	115 (51%)	110 (49%)	0 (0%)
3S2	250	85 (34%)	135 (54%)	30 (12%)
3S3	225	40 (18%)	175 (78%)	10 (4%)
3S4	225	45 (20%)	115 (51%)	65 (29%)
3S5	225	110 (49%)	115 (51%)	0 (0%)
3S6	250	85 (34%)	150 (60%)	15 (6%)
3S7	250	18 (7%)	200 (80%)	32 (13%)
5C1	300	80 (27%)	210 (70%)	10 (3%)
5C2	300	60 (20%)	180 (60%)	60 (20%)
5S1	300	140 (47%)	160 (53%)	0 (0%)
5S2	275	64 (23%)	165 (60%)	46 (17%)

*Time by average number of minutes each day and percent of daily total instruction time; WC = Whole Class, SW = Seat Work. **The times given here for the team-taught classes were computed by combining the time the students spent in different types of activities in both classrooms, and averaged over the course of several days.

category. The observational materials used for this analysis consisted of audio recordings and field notes that were made during all-day visits to the classrooms. Recording of activities involving our subjects began as they arrived at school in the morning and ended as they left at the end of the day. Times were noted for the time they spent in various types of activities, and observational notes were made of what was done during these activities, what materials were covered, who interacted with the students (teachers, aides, class-

mates), in what language and the like. In doing these observations it became evident that the students in a given class did not necessarily have the same instructional experience. When the practice of dividing students into subgroups for instruction was discussed in the previous section, it was noted that teachers divide their time among groups, working with each of them for a part of the period devoted to a given subject. Some teachers took extreme care to see that their instructional time and attention were equally distributed, and that all students in the class got the help they needed. Other teachers paid less attention to such matters.

We found in some classes that different groups got widely varying amounts of teacher attention; as a result, different students had very different sorts of experiences in their classes. In one class, for example, students were divided into 4 reading groups; each group spent a part of the hour long reading period being instructed by the teacher and the rest of the time doing seatwork. The teacher worked with the highest group first each day, after briefly going over the workbook assignments for the other three groups. When she was done with that group, she would take the next highest group, and so forth. On the first day this teacher was observed, she spent 25 minutes with the top group, 17 with the second group, 12 minutes with the third, and a scant 5 minutes with the lowest group. On the second observation, she spent 23 minutes with the top group, 20 minutes with the second group, 10 minutes with the third, and 8 minutes with the lowest. Since most of our subjects were in the lowest two groups, they were getting on the average just 8.75 minutes of teacher directed small

group reading instruction per day. In contrast, the two top groups were receiving an average of 21.25 minutes of reading instruction from their teacher each day. In computing the amount of teacher directed instruction students received in this classroom, we used the average for the lower groups since that was where our subjects were.

An examination of Table 3.3 will show that in general, the students in all of our sites spent a good part of each day engaged in instructional activities that could be described as individual or self-directed. 14 of the 17 classes spent over 50% of the day at such activities. Two classes were extremely high in activities of this type: 3C6 and 3S7 which spent 93% and 80% of each day respectively engaged in individual learning activities. The lowest was 3S5 with 44%.

The amount of teacher directed instruction available to our subjects varied enormously across sites, from a low of 4% (3C6), to a high of 51% for two classes (3C5 and 3S1). As might be expected, there was a negative correlation between teacher directed instruction and self-directed instruction. In general, however, teachers who did a lot of formal teaching tended to balance it off with equal amounts of individual work assignments. With those who did relatively less formal teaching, the amount of time they had students working on individual assignments was inversely proportional to the amount of time they spent engaged in teacher directed instruction.

3.1.3. Teacher Language Usage in Instruction

A number of sets of data were collected which incorporate examples of actual teacher language in the classroom. Audiotape recordings were made regularly thoughout the year as an accompaniment to different observational exedrcises. One observation schedule, performed six times over the year, specifically focused on the teacher, and thus generally provided good samples of teacher language. A second schedule followed individual target subjects many times over the year, using a portable tape recorder in a backpack on the child. These samples contained teacher language only when the child happened to be working close to the teacher during the recording period. The third kind of observation was conducted in order to get a general description of classroom events, and these recordings, which were made at the beginning and middle of the year also contain samples of teacher language.

In addition to these, video recordings were also made at least twice during the year for a total of a minimum of four full days of tape for each class. We did not receive permission to make video recordings in one of the participating school districts, but we did make additional audio recordings to compensate for this. The video recordings contain the best record of teacher language, as they are generally uninterrupted, and are easier to interpret and code because of the extra information provided by the visual mode.

Given these many and varied samples of teacher language, it was necessary to devise several different coding systems in order to get

at the different aspects of usage that were of concern in this study.

The first of these was a simple coding system which yielded the information we needed on usage patterns in classrooms; it allowed us to get a fairly detailed picture of the teachers' use of the languages of instruction (English and the students' L1 in the case of the bilingual classrooms), information on the degree to which, and under what circumstances English was used, what teacher language the children were exposed to, and the functional characteristics of that language. The system we devised for this coding necessitated only a single monitoring of each tape and no transcription. While listening to the tape, the coder: (1) timed each event, (2) timed the teacher's use of English and L1, (3) assigned each utterance or utterance unit to one of nine functional categories and recorded it on a tally sheet, (4) categorized the reason behind each instance of language switch, and marked it on the same tally sheet, and (5) described the event according to content and activity structure.

An event was defined as a lesson or transition period, whose boundaries were determined by a change in either content matter (e.g., from math to reading), or in activity structure (e.g., from whole class to individual). Timing was effected by the manipulation of three stopwatches. One watch measured the elapsed time of the event. A second was activated when the teacher began an utterance in English and stopped at the end of a dialogue, such as a question/answer routine, or stopped at the end of a dialogue, such as a question/answer routine, or after three seconds of silence if there was no reason to expect continued dialogue (for example after a directive to "be

quiet"), or at the onset of talk in the other language. The third stopwatch registered time spent using Spanish or Cantonese, and was operated according to the same principles. The difference between elapsed time and the teacher's English and Spanish/Cantonese talk was computed as a measure of "teacher silence". Periods of teacher silence might be accompanied by children talking among themselves, reading out loud, or engaging in a class discussion. Alternatively the whole class might be silent during a test, a seatwork assignment, or quiet reading. In order for the amount of child language produced during an event to be assessed, the coder made a subjective rating of the children's language participation on a five-point scale from very high to very low. If an utterance was repeated, the coder wrote an "R" in place of a line, and a "C" if it was in Chinese, an "S" if in Spanish. The most striking finding in doing this analysis concerned the very limited use of the students' L1's by the bilingual teachers. Table 3.4 shows the breakdown of language use by the teachers of the Spanish speakers, and Table 3.5 shows the patterns of use for the Cantonese group.

Teacher TS2 was the only teacher to use Spanish frequently (24% of the time), while three others used it 8% of the time, and the fifth just 2% of the time. Nearly all of the bilingual teachers made some use of translations, but only four of them relied on it to any extent. Teachers TS1, TS3, TC3B and TC7, averaged one translation every 3 to 5 minutes. The effects of this practice will be discussed in the section on teacher language use variables later in this chapter. There were in addition to the instances of translation which were counted

Table 3.4
Teachers' Use of English, Spanish, or Silence, and Minutes between Instances of Translation

Teacher	% Engl.	% Span.	% Silence	Mins. betw. Translation	Total mins. sampled
TS1	60	8	32	5	487
TS2	49	24	27	6	119
TS3	53	8	39	3	270
TS4	58	2	41	16	496
TS5	69	NA	31	NA	462
TS6	62	NA	38	NA	251
TS7	63	NA	37	NA	255
TS8	52	8	40	7	177
TS9	49	NA	51	NA	280

Table 3.5
Teachers' Use of English, Cantonese, or Silence, and Minutes between Instances of Translation

Teacher	% Engl.	% Cant.	% Silence	Mins. betw. Translation	Total mins. sampled
TC1A	64	NA	36	NA	246
TC1B	54	1	45	--	283
TC2	30	0	70	0	375
TC3A	59	NA	41	NA	235
TC3B	46	6	48	3.5	215
TC4	30	1	69	31	493
TC5	54	NA	46	NA	439
TC6	14	NA	86	NA	455
TC7	41	10	49	3	449
TC8	54	NA	46	NA	533

here, lexical mixings in which a, say, Spanish equivalent to a single vocabulary item or phrase was embedded in an otherwise English utterance. Such occurrences were two short to be timed on a stopwatch and were therefore not even considered part of the teacher's talk in Spanish. Generally teachers talked more often than they were silent. The most vocal of the teachers (TS5, TS7 and TC1B) 76%, 69% and 64% of the time they were in class, while the ratio for the rest was about 60:40. The teachers of Chinese speakers used even less of the

students' L1 than the Spanish group, and they generally talked much less. The only one of the Chinese bilingual teachers who used Cantonese to any extent at all was TC7, the teacher of the fifth grade bilingual class. The only other Chinese bilingual teacher who used Cantonese much was TC3B. The other two Chinese bilingual teachers' use of Cantonese was negligible. They used it for explaining things to individual students, but they rarely if ever used it during formal instructional activities. Teacher TC2 used it only during informal contacts with students. It should be noted that in both the Chinese and the Hispanic bilingual classes, the aides made considerably greater use of the students' L1 than did the teachers. They tutored individual students in the L1 as needed, generally, and in a few cases, they did some formal instructing to groups as well. We did not, however, systematically study the language use of the teacher's aides as we did for the teachers.

Among the teachers of the Chinese students, three were silent substantially more than they talked (Teacher TC2, TC4, and TC6), and the figures for the other teachers generally showed higher proportions of silence than for the Spanish group. It is not surprising that the three teachers who talked the least were also the three who made the greatest use of individual seatwork activities. As we shall see, the reduced amount of teacher input available to students in these classrooms did affect their development of English over the course of the school year.

The second analysis that was performed on the language used by teachers in these classes involved a considerably more complex coding

scheme which allowed us to look at qualitative dimensions of this language. In that analysis, the English used by teachers during instructional activities was examined from the standpoint of whether or not it fitted the characteristics of "linguistic input". The purpose of this examination was to try to determine how the language used by the teachers affect the language learning efforts of the students. This latter analysis and the variables that derived from it are discussed in considerable detail in a later section in this chapter.

3.2. Independent Variables

In the remainder of this chapter, we describe the instructional practices that we selected for examination as independent variables, and the methods we followed in assessing aspects of those practices. First, we discuss variables that relate to instructional aspects of the classroom (Instructional Practice Variables), then we discuss variables that relate to how language was used in the classroom (Instructional Language Use Variables).

3.2.1. Instructional Practice Variables

3.2.1.1. Noise and Activity Level

This variable was derived from ratings on two closely related characteristics of classroom life: noise level, and physical activity and movement level. High ratings on these dimensions indicated a low level of noise, physical activity and movement in the classroom

generally: that is, they were low enough not to distract students who were trying to work, or to prevent students from hearing the teacher. Our observations revealed considerable variation on these dimensions. There was, in some classrooms, little movement or noise for large periods of the school day. Students spent much of their time at their desks, and worked silently on individual assignments. The only sounds one heard for extended periods of each day were those of pencils or erasers against papers, pages turning, occasional whispering, and sometimes, a sigh or two. In contrast, there were, in other classrooms, a constant movement of objects and persons and, as one might expect, a level of noise that was in keeping with the physical activity in the classroom. Students worked at their assigned places, but they also moved about the classroom to get materials to work on, to seek help from the teacher or classmates on their assignments, or to check on the progress of friends at work or on the current status of the pencil sharpener.

Noise and activity levels were notable characteristics of different classrooms, but it should be said that very low levels of these did not necessarily add up to a positive feature. With as many as 35 children and two adults at work in one room, a certain amount of movement and noise can be expected. In fact, well-designed classroom programs provide students with varied instructional experiences and activities. At any given time, there might be several different activities going on in the classroom: a teacher instructing a group in one part of the room, an aide helping another across the room, and students working independently on assigned or self-selected materials

at other locations. Such varied activities can generate a fair amount of noise and movement, all of which are natural by-products of learning and growth in a busy classroom. It is only when noise and activity reach levels that interfere with mental concentration or the ability to hear that they are problematic. Extremely low levels may in fact indicate the kind of rigid control that is not particularly conducive to learning and intellectual development.

Several factors which appear to be influence the amount of activity and concomitant noise level in classrooms. Control is one. Some of the noisiest classes were those with teachers who had difficulty maintaining control. It was not for want of trying in most cases. Such teachers tended to expend considerable effort in establishing order, although all too often, their efforts resulted in an increase, rather than a decrease in the general noise level since they had to shout in order to be heard above the din. Teacher tolerance is another factor. Some of the noisier classrooms were ones with teachers who were simply more tolerant of a noisy environment. They seemed to regard the noise and activity in their classrooms as a natural outcome of children who are busily at work. A third factor influencing the noise and activity levels found in classrooms had to do with the acoustics and physical housing of the classroom. Three of the 19 classrooms involved in the study were located in "open pod" buildings, which housed from 6 to 8 classes each. There were partitions in these buildings dividing the space into "classroom" areas, but as they did not completely enclose them, each area was open to the noise and movement of the others. Although carpeting and furniture dampened the

sound in these pods somewhat, the noise emanating from the activity of as many as 240 students and 16 teachers and aides under one roof was at times, was nearly deafening. In such situations, not only did teachers have to compete with the noise coming from the other classes, they also had to fight the acoustics. Anything quieter than a shout tended to get lost in the space, so children and teachers alike had to shout almost, in order to be heard.

The three teachers who found themselves in such classrooms responded quite differently to the special challenge presented by the physical setting. Interestingly, how well they managed depended in large part on how the various factors influencing noise and activity interacted in their classrooms; that is, it depended on their ability to maintain an orderly and controlled environment despite the distractions from external sources, on their tolerance for noise and confusion, and on how they structured the learning activities in their classrooms. One was able to handle the situation very well. She was extraordinarily calm and business-like, and had a calm, business-like class of students to work. Although surrounded by extremely noisy classes, her classroom area was a peaceful oasis in the pod. She occasionally complained about the constant commotion that went on in the classrooms on all sides, as she tried to make herself heard, and her lessons were sometimes drowned out completely by the ambient noise in the pod, she generally managed to rise above it all. A second of our teachers, in a similar situation, was much more bothered by the noise around her. She was troubled by a very soft voice, which did not carry well enough to be heard in the cavernous pod. This teacher

resorted to organizing much of her instruction around individual instruction in which she worked with just one student at a time, or as small, small group instruction where, seated just inches from her students, she could make herself heard. Her classroom was one of the noisier ones in the sample, and indeed in the building. While the teacher was working with individual students or small groups, the rest of the class was supposed to be working on individual assignments; the students mostly did work, but they also did a lot of talking as they worked, and some liked to break the monotony of work with occasional strolls around the classroom as well. Hence this classroom was noisier than most, but not bothersomely so; since the teacher did not seem to mind it.

The teacher who was especially bothered by the open pod arrangement apparently had little tolerance for noise, and had students she felt needed frequent reprimanding about talking too much, about being out of their seats, about not staying on task, and the like. Instruction in this class was conducted either as whole class events, in which the teacher presented materials to the entire class, or as seatwork assignments which students were supposed to carry out on their own. A certain amount of talking and movement was inevitable, since the students liked to consult the teacher, and one another on these workbook or individual assignments. The whole class lessons were particularly difficult for this teacher: she tried to make herself heard above the noise by talking above it, and although she might start out fairly calm in the early morning, her voice became increasingly shrill as the day wore on. By early afternoon, she was often hoarse, and

irritable--which didn't help her tolerance for the noise and confusion in the environment. When the teacher's irritation began to show, the students in this class tended to become more unruly, and louder, with the result that the teacher would become more irritated, and so on.

How noise and activity level in the classroom can affect language learning may or may not be obvious. The point is that in order for students to learn what is being taught at school, and to develop their skills in the school language, they have to be able to hear what their teachers and classmates are saying. A noisy classroom is probably not an optimal learning environment for anyone, but it is more problematic for students who are not fully proficient in the school language than it is for those who are. Research (Dornic, 1979) has shown that the less proficient one is in a language, the more one's comprehension of that language is affected by extraneous noise. Students who are fully proficient in English can often figure out what classmates and teachers are saying, even in the noisiest classroom environments since they know the language well enough to fill in the gaps in what they do hear. When students are not fully proficient in the language of instruction, which was the case for many of the LEP students in this study, they have difficulty enough understanding what is being taught, even under the best of conditions. If they have any difficulty hearing what is being said as well, they will get little out of the experience. But while classrooms that are too noisy pose one kind of problem for language learners, ones that are at the other extreme can be just as problematic. Classrooms that are extremely quiet are so by virtue of students not being permitted to do much talking. In order

for students to develop proficiency in a language, they need practice in speaking it. From the language learner's point of view, the best kind of situation is one in which one can hear, and be heard.

3.2.1.2. Distractability

This variable consists of ratings on a single dimension, that is, on the extent to which teachers permitted themselves to be interrupted, or distracted from what they were presenting in lessons. Distractability is a trait that is usually considered in relation to the behavior of children in instructional settings, rather than as a characteristic of their teachers, but in fact, we have been persuaded by our classroom observations to regard this as a teacher characteristic that needed to be examined. It can be difficult for teachers to cover all the materials that must be taught and to accomplish all they would like to do in the time allocated for each lesson when they have to deal with the demands for time and individual attention coming from as many as 30 students at a time. And yet, teachers do have to be responsive to individual interests and special needs.

Like the previously discussed variable, a high rating on this one indicates low distractability. This variable and the noise and activity level variable are correlated to a high degree, owing in part to the relatedness of both variables to teacher control. Some teachers exert such a high degree of control in their classes, that they do not allow anything to interfere with the course they are following. Others are easily diverted, both by things that students might bring

up during lessons, or by matters that arise in the course of their teaching. Students frequently bring up tangential points, and some teachers allow the class to follow these up to such an extent that they lose track of what they were trying to teach in the first place. Others stick strictly to the materials at hand, and will not consider anything else, even when potentially relevant or interesting side-points are suggested. One of the factors affecting this variable has to do with how open teachers are to student contributions during lessons: some welcome their comments; other do not. Students participation in some classrooms is limited to responding to specific questions which teachers ask in order to determine whether the students understand the materials that have been taught. Another factor is approachability. Some teachers encourage students to let them know whenever they don't understand, or when they want help in their work; others prefer that students wait until they are asked specifically if they need help or whatever.

Control, however, was the factor that was most closely associated with this variable. The teachers who were the least distractable were the three who exercised the highest degree of control in the classroom. One was relatively approachable, and another was fairly open to student participation; but all three were teachers who left no doubt as to who was in charge in their classrooms. Of the three teachers who were found to be the most easily distracted, two were very approachable, and permitted their students to interrupt them anytime at all. One of them was a teacher who invited a high degree of open discussion in her lessons as well. All three were teachers who could be

described as having a fairly low level of control over their classes, and things were often quite noisy in their classes.

How is this teacher characteristic relevant to language learning? Teachers who are easily sidetracked in their teaching may not provide the continuity and coherence in the presentation of lessons that enable students to make use of the instructional language spoken during these lessons as linguistic input. On the other hand, the language used in lessons taught by teachers who do not tolerate interruptions may be equally unusable as input. When teaching LEP students in English, teachers must make constant adjustments, both in the materials that are being presented, and in the language that is being used. These adjustments are ordinarily based on feedback provided by the students as they respond to the lesson. When students indicate that they comprehend what is being taught, teachers can continue with the lesson; when they indicate that they do not understand, then teachers need to make adjustments in the way they present their materials, or in the language they use. An intolerance for interruption may go along with a general insensitivity to the need to consider student response and feedback in teaching. This is another variable in which extremes at either end may not be conducive to language development.

3.2.1.3. Academic Work Orientation

This variable comprises 3 dimensions on which classroom programs were rated: the extent to which children were engaged in work, or

were "on task"; the extent to which time during the school day was devoted to academic learning activities rather than make-work activities or games and crafts; and the extent to which there was evidence of preplanning and teacher preparation in instructional activities and events. Together, these three dimensions add up to an "academic factor", one which provides a measure of a teacher's overall instructional focus. Some diversity in activity is desirable, of course. Children may derive maximal benefit from school even if they do not spend every minute of the school day engaged in serious study. They need breaks in their work, and they can learn useful skills through craft activities, and by playing games. But in order to acquire the academic skills and knowledge they are expected to get from school the biggest part of the day must be devoted to academic learning. Activities that are focused on developing basic skills and on imparting subject matter to the students have to be the main focus of a teacher's instructional program.

The teachers varied somewhat less on this variable than on many of the others on which they were rated. More of them were rated high, than low on this dimension. 13 of the 19 teachers ran their classes in such a way that students were largely engaged in work designed to develop academic skills and knowledge (i.e., they were given ratings of 5 to 7 on a 1 to 7 scale). Teachers who emphasized academic learning in their programs were also ones who tended to do a lot of preplanning in organizing their programs. They had materials prepared, and usually had activities organized well in advance. The lowest rated classes were ones in which there was a large percentage of

"down-time" (that is, time spent on transitions between activities, in getting students settled down for activities, or in students doing nothing at all while waiting, say for assignments) and in busy work, or pointless activities. Inadequate planning by the teacher, or poor organization was a major problem in the case of several of these classes. Because they did not have events planned or materials prepared in advance, these teachers sometimes wasted a lot of class-time looking for things, or in makeshift activities that did not work out. These makeshift activities frequently involved make-work tasks (e.g., having students copy texts from the blackboard into their notebooks; having them trace pictures of objects whose names they were supposed to be learning from illustrated dictionaries, and then coloring and cutting them out, before pasting them into their notebooks.) These low classes were ones in which teachers tended not to monitor student work closely, so that students were often less engaged in their work than they might have been. In the two lowest rated classes, as much as a third of the school day was likely to be spent on pointless activities, (e.g., making color paper collages of aquarium scenes as a "science" activity, or spending the afternoon playing television inspired games such as "Family Feud".) A substantial part of each day in all 6 of the low rated classes was frequently frittered away either in busy work, or in doing nothing at all, but the two lowest classes were particularly poor in this regard. Not only were there a lot of pointless activities, but students tended to waste an inordinate amount of time in getting to work, whatever the task.

This variable is one which more likely affects academic learning in general than language learning specifically. In 5 of the 6 classes which were rated the lowest on variable, from 18% to 20% of each school day was found to be lost between activities, or in extraneous activities (this does not include those activities that might be judged as "non-academic" or as academically pointless), but in matters such as ----------. Even assuming that everything else they did in those classes were equal in educational value to that of the instructional activities conducted in the 10 classes in which less than 5% of the time was lost between activities, the students in these 5 classes are still getting substantially less instruction each day than the students in the 10 higher rated classes. However, the instructional programs in the high and the low rated classes are, as a rule not equal in quality, owing to the conspicuous lack of planning and to the lack of educational focus in the low classes. If quantity and quality in the instructional program provided for language learners play any part at all in the development of language skills, this variable is an important one to consider, whether or not it can be shown to be related to short term gains on test scores.

3.2.1.4. Peer Interaction on Schoolwork

This variable consists of a single dimension on which instructional programs were rated, and that was on the extent to which peer interaction on school work was promoted and actually took place. As one might expect, this variable is generally correlated negatively with the low noise variable since children working and talking with

one another will result in a higher level of noise than children working by themselves. Several aspects of instructional programs relate to this variable: activity structure and teacher control. A major factor was in how teachers organized their instructional programs. Teachers who made use of arrangements such as peer teaching whether formal or not generally had classes in which there was a higher level of child interaction than teachers who emphasized individual work or teacher directed instruction in their programs. In fact, the lowest rated classes on this dimension included both the class with the teacher who made the heaviest use of individual focused instruction, and the one who made the greatest use of teacher directed instruction. Only 4 of the 19 teachers made much use of peer teaching arrangements, and of these only 1 made it a predominant, formal aspect of the program. Students in this class (one of the bilingual "flip-flop" classes) received as much as an hour and a half of peer teaching each day. However, these peer teaching arrangements were not symmetrical ones in which each individual is in turn both tutor and tutee. Instead, the arrangements involved the pairing of "advanced" students with "low" ones, with the advanced ones always playing the role of the tutor and the low students the role of tutee. The arrangements in the other classes were less formal. Teachers might assign students to work together on some writing assignment, or they might assign some of them to tutor or monitor the work of others. In some classes, interaction between students was fortuitious. Students were not assigned to work with each other, but teachers did not prevent them from talking with one another while they worked either. Whether or not these classes were rated high on this variable depended on the extent to

which the students appeared to be actually talking about work.

How relevant this variable is to English language development would appear to depend on a number of situational factors: how far along students have already gotten in their mastery of English; how inclined they are to use English during these interactions; and the nature of the interactions that take place between students when they are talking about their work. Students who are fairly advanced in English development will profit more from these interactions since they are more likely to have the level of proficiency in that language required for talking about their school work. Those who are beginners will profit from interactions with peers about school work in English only if those peers are fairly competent in that language. Otherwise, such interactions may actually be counterproductive where language learning is concerned. Ordinarily, however, when students who do not speak English well interact, they do so in their primary language, provided they share a common first language. When LEP students with different primary languages work with one another, the language they use is a partially learned version of English--and this may or may not be adequate for talking about their work. In some cases, teachers get around this problem by pairing students who are fairly proficient in English with ones who are less so, a practice which results in the LEP students getting better language input and practice than they would get in interactions with peers who were no more proficient than they in English. But here again, whether even these well-engineered peer interactions work for language learning depends on the nature of the interaction itself. The language spoken during a peer-tutoring

session is often quite limited. The following is fairly typical: the tutor's assignment is to drill the tutee on a list of spelling words; the tutor calls off a word; the tutee spells it, either in writing or orally; the tutor indicates whether the tutee was right or not, then goes on to the next word if it was correct, or has the tutee try again if it was not. Little input or practice can be gotten out of such an interaction, so while this kind of activity might benefit the development of academic skills in general, it may have no effect on language development.

3.2.1.5. Instructional Model Use

This variable relates to the approaches teachers take in presenting instructional materials to students during lessons, and in structuring the lessons by which such materials are taught. Two separate rating dimensions figured in this variable, one related to the extent to which the teachers varied in their use of models of instruction, and the other in their apparent flexibility in using them. In considering model use, we looked both at methods of presenting information, and at the organization and structure of lessons. There are a variety of ways of looking at the structure of lessons: structure can be viewed in terms of the size of the group being taught (whole class, small group, or individuals), in the role played by the teacher during the lesson (one can distinguish teacher directed lessons in which a teacher takes the role as the center and main organizer of the learning activity, and serves as the source of the information to be taught, and child centered lessons in which the teacher's role is to

reflect and clarify student ideas, to facilitate the activity), or in the degree and manner of student participation in lessons (it can be active, where the mode of participation is discussion or practice, or passive, where participation is limited to listening or observation). Methods of presenting materials to students can be characterized in terms of the beliefs they reflect in teachers as to how children learn and what constitutes learning. The following are examples of methods we considered in our ratings of teaching approaches together with the models of learning they appear to reflect on the part of teachers:

(1) Teachers present materials or demonstrate procedures which their students are to learn or to put to use in exercises. The view behind such an approach is that knowledge can be transmitted by exposure, and that learning occurs through observation.

(2) Teachers present materials such as poems, associations, facts and correspondences to be memorized. The emphasis here is on rote learning based on the belief that memorization and imitation constitute effective ways of learning certain kinds of information or skills.

(3) Teachers present questions, passages to be read, or other materials for which specific responses are elicited or modeled, and then children practice giving responses to other instances of like stimuli for which they receive selective reinforcement. The views behind this approach are that certain kinds of learning take place most efficiently when learners are given practice in making the desired responses, and that the reinforcement of

desired behaviors will facilitate learning.

(4) Teachers present rules or concepts with their defining attributes, illustrate them by offering sample instances and noninstances, and then give their students practice in applying the rules that have been taught. The view here is that the training comes from this kind of practice will transfer to other situations as when students encounter new problems whose solution call for the application of the same rules or understandings. The approach is one that emphasizes deductive learning.

(5) Teachers present instances of a concept and then has students work out the concept and its defining attribution. They may also elicit data or instances of a concept from the class, and then go on to have students figure out how to categorize these. The view behind this approach is that students learn principles most efficiently when they have figured them out for themselves, and that the training they receive in such activities will result in their learning strategies for understanding other like phenomena. The emphasis here is on inductive learning.

(6) Teachers present puzzling events or situations for students to explore or to react to during a lesson. The view is that such experiences will develop the ability and inclination to confront new situations by seeking to understand them, and to look for meaning by analyzing apparent facts, rather than to take them as granted. This approach emphasizes the development of analytical and interpretative skills.

It should be emphasized that in our ratings we did not assume that one or another of these approaches was better than the others, or that any of these approaches would be appropriate across the board. What this variable consists of are ratings on the variety and flexibility in applying them in their programs of instruction. We did attempt to rate teachers on the extent to which they made use of specific ones of the approaches described here, but gave up because we we could not determine the extent to which a given approach was used by each teacher based on the data we had available to us. We did, however, rate teachers on how effectively they were using the models we observed, but that rating has been incorporated into the "good teaching variable" which is discussed below rather than into the model use variable discussed here. Variation and flexibility in model use may be as relevant to language learning as they are to academic learning since the kind and amount of linguistic input and practice available to learners through the different models of teaching can vary substantially. This, of course, assumes that the more varied the opportunities that are available to LEP students to hear and practice English, the more likely they will be to learn it.

3.2.1.6. Good Teaching

This variable concerns "teaching skill" in general, although its chief component is language use in teaching. It should be noted that while this variable is similar to, and correlates highly with the "instructional language as input" variables (see Section 3.2.2), the two sets of variables differ somewhat in focus and were derived from

different sets of rating dimensions. The emphasis in the present variable is on the promotion of subject matter learning, and on how teachers use language as the means for imparting information and developing academic skills in students. The emphasis in the input variable is on extent to which the language used by teachers promotes language development.

Differences between the dimensions that make up the two variables will be commented on as they come up in the discussion. This variable comprises eight separate dimensions on which teachers were rated. Several of these relate to the effectiveness of approach.

(1) How effectively did teachers use the teaching models (for examples of teaching models, see the description of the model use variable above) they employed?

(2) To what extent did they focus on teaching high level skills (for example, those involved in comprehension, integration of operations, or generalization)?

(3) To what extent were the students in the class being asked to perform learning tasks (whether in oral or written work) that were appropriate for their levels of learning proficiency?

It should be noted that we were concerned in doing these ratings with the effect of instructional practices on academic development, and not on language development per se. In this variable, our ratings on appropriateness of level were concerned with the level of work being assigned to children, rather than the appropriateness of the

level of the language being used by teachers in presenting this work to them. Language is not irrelevant here, however, in that an important consideration in rating the match between the levels of learning tasks assigned to children and their levels of learning proficiency was whether the language demands of those tasks matched in any way the children's proficiency in the language. The rating dimension that figured in the input variable was concerned specifically with a match between language used by teachers in their presentation of materials to students given their apparent proficiency in the language of instruction.

The second aspect of this variable relates to a concern with comprehension.

(1) How frequently did teachers check with children to determine whether they were being understood by the students (for example, to what extent did they use overt checks such as "Do you understand?" or "Do you want me to go over that again?")?

(2) And, to what extent did teachers repeat or modify previous utterances, either by upgrading, downgrading or paraphrasing them, in an effort to improve understanding on the part of the

The third aspect of this variable has to do with a concern with language itself in the course of teaching. indent(To what extent did teachers produce content relevant English which was audible to most of the class?) The intent here was to get at the differences we observed among teachers, not just in the amount of English they produced in class, but in the uses to which they put it. By "content

relevant English", we had in mind its use in providing information about the content of instruction, giving explanations, and the like rather than in giving instructions or in its ordinary social uses. Students who are just learning English need to hear how it is used by native speakers for dealing with a full range of communicative functions in an instructional setting. How do English speakers use English for explaining, describing, narrating, or instructing? How do they ask questions, or make requests of one another?

Other rating dimensions related to a concern with language were these:

(1) To what extent did teachers attempt to promote vocabulary development in the course of their teaching (for example, did they explain the meanings or uses of words encountered in lessons?); and,

(2) How frequently did they draw attention to language itself in activities where language was the means rather than the object of instruction?

In the ratings that went into the effective instruction variable, we were dealing in part with the academic appropriateness of what teachers were doing in their classes, and in part, with the appropriateness of the language they used in the course of their teaching. There is a tendency on the part of many teachers who work with language minority students to aim much too low in the level of the content they present to students, and in the language they use in teaching them. They stick with plain, unadorned, and at times, even

oversimplified presentations of the materials to be learned. Hence, they may avoid teaching subjects they believe their students will have difficulty understanding, or to withhold enrichment of any kind in their teaching on the grounds that such students have to be taught the basics before they are given anything else. This kind of view generally led to a strong emphasis on the development of basic skills across the classes we have studied, although some teachers focused on much lower level basic skills than did others. (That variation is captured in the rating variable, "Low Skill Teaching", which is described below.)

A few teachers erred in the other direction; they tended to teach at levels that were appropriate for the higher achieving bilingual and English speaking students in their classes, but not for the LEP students who lacked the language skills and the prior experiences needed for dealing with the materials as presented. One of the teachers who was not rated particularly high on this variable actually had one of the best overall programs of instruction in our sample in terms of enrichment, level of instruction, and the like. Several times a week, for example, she conducted "art appreciation" lessons in which she showed slides of paintings or sculpture, and then led the class in discussions of characteristics and meanings of those works of art. Hence, she was rated high on enrichment in her program, and relatively low on "low skill teaching", as one might expect. The language used by this teacher in her instructional program was mature and rich; she gave the children opportunities to hear, if not learn to use, words such as "surrealism" and "impressionist". She was thus rated high on

her use of content-relevant English. However, when the rating dimensions focused on the question of the extent to which adjustments were made in the presentation of the material depending on evidence provided by the students as to whether they were following what was being taught or not, then this teacher was rated lower. While she made use of slides and prints in these lessons, much of what was to be learned was conveyed linguistically. The teacher pointed out aspects of the paintings to be noted by the students, she compared them with others that the students had seen earlier, and she characterized the various styles represented by individual paintings, but this was done entirely in lecture style. She spoke rapidly, and seldom slowed down or made any adjustments in her presentation based on student feedback; she depended on everyone being able to keep up with her, and indeed the majority of the students in the class appeared to be able to do just that. The LEP students, however, were generally not able to keep up. The program in this class might have been good for everyone, had some linguistic accommodations been made for the sake of those who needed be shown what aspects of the paintings were being talked at each point along the way, or who needed a slightly slower paced presentation in order to make out what was being said. The LEP students' found it difficult to follow the lessons, not only because the language used in the lessons was unfamiliar or because the materials were difficult, but because the students had no way of figuring out what the teacher was saying about the slides.

There were teachers in our sample who were able to teach at a fairly high level and to make use of fairly complex and rich language

in their teaching, but nevertheless managed to present their materials in ways that allowed their LEP students to participate in lessons, and to get something out of them even though they did not understand everything that was going on. Our observations have led us to conclude that it is not enough simply to provide LEP students with opportunities to hear English as it is spoken by teachers and classmates in school, it is also necessary to offer them the means for figuring out what is being said, and for discovering what principles guide the use of that language. These teachers (they were among the highest rated on the Good Teaching variable) gave us reason to believe that it is possible to provide language minority students with an enriched program of study, and to expose them to a rich and varied use of the school language from which they can derive meaning even before they are fully proficient in English. These teachers emphasized the development of higher order knowledge and skills in every subject area. Whether the subject was reading, mathematics, spelling or social studies, they were concerned with helping the students understand and interpret what they were learning. These teachers put a great deal of effort into the development of vocabulary in building the students' comprehension skills in connection with all subjects. They spent a lot of time discussing the meanings of words and texts, and making sure the students understood what they were reading or hearing. When students gave any indication that they did not understand (either because of the language or the content) these teachers would repeat, or present the materials in some other way, sometimes paraphrasing them, but often enough demonstrating or illustrating the point non-linguistically as well.

Our observations reveal that such efforts generally paid off, both in language gains for LEP students (to be discussed in Chapter 4), and in their academic development as well. The students in the classes taught by teachers who were rated the highest on this dimension profitted from their teachers' efforts. One of these was a teacher who featured literature in his rather than any single aspect of it); two teachers had mathematics programs that were focused on developing an understanding of mathematics operations and concepts, their efforts resulting in unusual gains in math achievement for their classes (one of these was a third grade Chinese bilingual class (3C2), the other was a third grade Hispanic English class (3S-)); several teachers had language arts programs that promoted writing as a form of communication, and their students developed unusual skill and enthusiasm for writing.

The ratings on this variable ranged from 6.65 to 1.50, with the median rating being just above the mid point in the 1 to 7 scale at 3.52, so it would appear that our teachers ran the full gamut in quality. The question as to just how this variable affects language and academic development should be obvious. Instructional effectiveness depends partly on how teachers present the materials to be learned, and partly on what they emphasize in their teaching. The varied use of teaching models, the tailoring of instructional activities for the sake of students, and the focus on the teaching of higher level skills are instructional practices that we assume improves academic development in students. Similarly, a commitment to successful communication, a continuing effort to develop vocabulary, and a focus on

language use are instructional concerns that surely promote both academic development and the development of language skills in students. Teachers who are concerned with comprehension will find ways to help their LEP students understand what is being taught, even when the materials are difficult.

3.2.1.7. Low Skill Teaching

This variable consists of a single instructional characteristic, namely one in which teachers were rated on the extent to which they tended to focus on the teaching of "mechanics", lower level skills, basic operations or simple facts. As pointed out earlier in the discussion of the Good Teaching variable which included ratings on the opposite practice (namely, focusing on the development of higher level skills in instruction, such as those involved in comprehension and interpretation, or ones required for the integration of operations), most of the teachers in the sample (that is, all but seven) tended to emphasize the development of basic skills almost exclusively, and provided relatively little enrichment in their programs. Few of others ever went beyond a basic coverage of the curriculum. Their focus on teaching the basic skills of school to their students may not have been misplaced, given the fact that so many of them had to contend with learning problems stemming from experiential deficits as well as language differences. Nevertheless, the teachers in the sample did vary in the extent to which they worked at developing anything beyond the most mechanical level of control over such basic skills. A concern with the development of low level skills led teachers to

emphasize accurate decoding rather than comprehension in their reading programs, on correct spelling and handwriting rather than learning how to use words or composing texts in their language arts programs, on learning the mechanics of computation rather than on understanding arithemetic operations in their mathematics program, and on memorization and rote learning rather than on figuring out what things mean, or how they work in other areas of the curriculum.

Some brief descriptions of practices that are focused on the development of low level mechanical skills will show how such an instructional emphasis can influence academic development and language learning. Let us consider ways of conducting, say, reading instruction that reflect this kind of bias.

(1) Teacher has students read in round-robin fashion, each one in the reading group reading aloud a passage from the reader. Teacher corrects reading errors, and occasionally provides definitions for specific words in the text. She/he may ask the students to "look up" the words they don't know in a dictionary, and asks them to read the definitions they find to the rest of the group. Discussion of the text itself is limited pretty much to factual matters (e.g., "Who did Billy see coming down the street?" "What does

(2) Teacher goes over the materials to be covered for the day, focusing on the procedures to be followed in completing the day's assignment. Students are given assignments (sections to read, workbook pages to complete, or supplemental materials to work on)

which are to be completed independently. The remainder of the reading period is spent with the students working individually, and without direct guidance from the teacher. The teacher monitors the students as they work, but unless they have specific problems on which help is needed, the teacher does not provide any additional "instruction" during the period.

(3) Teacher goes over the workbook assignment from the previous period by asking the students by turn to give their answer to the next item on the page. If the answer is correct, the lesson continues. If the answer is wrong the teacher either tries to elicit the correct response from that student, or from someone else. Few comments are made concerning correct responses, and only rarely are explanations provided, even when students respond incorrectly.

It should be emphasized that the practices described here are only samples; no one of them by itself is indicative of a teacher's overall focus in teaching, since teachers generally work at a variety of levels in their teaching. That focus can be seen only in relation to the total instructional program. Our ratings on this variable were made in consideration of the overall balance maintained in programs between low and high levels of instruction. Much of the instruction that we observed in our sample classrooms was directed at the development of basic skills, as noted earlier. Our ratings on this variable reflect that observation: the range (on a scale of 1 to 7) was 4.00 to 7.00, with 11 of the 19 teachers rated at 5.00 or above. The eight who received ratings below 5.00 were the teachers described earlier as

having included some enrichment activities or activities that promoted the development of higher level skills in their instructional programs, which otherwise were directed towards the teaching of basic skills. The other eleven stressed the development of low rather than high level skills with the extent to which they departed from an exclusive concern with low level scores reflected in how much below 7 they were rated.

This variable generally correlated negatively with the "Good Language Teaching", but it should not be concluded that "Low Skill Teaching" necessarily means ineffective teaching. In fact, the teacher who earned the highest rating on this rating (7.00) was, from all evidence, quite effective in what she did. The students in her class (3C6) made respectable gains in academic achievement as shown by gains in CTBS scores; our observations of the classroom indicate that the instructional environment maintained by this teacher was one that promoted good learning habits and behavior. Her class received the second highest rating on the extent to which students appeared to be "on-task" and engaged in learning activities (see variable #2 above).

This variable is more likely to affect academic development than language development, since it deals with the content of instruction rather than with how it is conveyed linguistically. How much influence it might have, however, is a question that cannot be answered easily since so many factors are involved in learning.

3.2.1.8. Language Teaching and Feedback

This variable combines ratings from 4 aspects of teachers' instructional programs, 2 of them obviously related, and 2 of them less obviously so. The related aspects are these: (a) Teacher frequently plans and carries out instruction concerning the structural aspects of English; and (b) Teacher frequently promotes the acquisition of metalinguistic concepts, e.g., verb, sentence, etc. Forming a close cluster with them were the following: (a) Children are frequently given immediate feedback in oral production situations; and (b) Teacher frequently has children participating in whole class activities, not just seated that way. The clustering of this eclectic grouping of variables can be explained in this way: The structural aspects of English, when they are taught at all, tend to be covered during the time devoted to "language arts" instruction in most classes. In some classes, language arts instruction consisted almost entirely of workbook activities: children were assigned exercises to complete in their workbooks, lists of spelling words to memorize, and occasionally, short essays to compose. Many of these exercises were concerned with the "structural aspects" of English, for example, suffixation, verb morphology, pronominalization and the like. Teachers usually went over the procedures for completing these exercises with students, but they differed as to whether or not they provided instruction about the structural meanings or functions of such grammatical forms and processes. Those who did, tended to emphasize it a lot, and hence were more likely to be calling attention to it throughout the school day.

How immediate feedback on oral production relates to this is somewhat more subtle. Teachers differed a lot in how they saw their roles. Some were more "traditional", and believed that certain subjects, grammar being one of them, have to be taught if they are to be learned at all. We found that the teachers who emphasized grammar in their programs were generally those who did a lot of "teacher-directed" instruction. (This combined variable correlated .595 (sig. .012) with amount of teacher directed instruction.) In most classes, when there was actual instruction in English grammar, it was done as whole class instruction. During such activities, students were frequently called on to participate orally, and on those occasions, they were especially likely to get feedback on the form as well as the substance of their verbal contributions. Not all teachers did this kind of instruction, as we shall see when the instructional organization variables of teacher directed activities versus independent seatwork activities are discussed. About a half of our teachers regarded themselves as "facilitators" or consultants in learning. They made assignments, went over procedures for completing assignments, and they monitored the students while they worked, providing assistance and instruction to individuals or to the class, as the need for help arose. Such teachers conducted relatively few group or whole class lessons per se, during which students might be called on to participate orally.

The ratings on this combined variable ranged from 1.50 to 5.54 (on the scale of 1 to 7), with the median at 3.56. It would appear that although there was little instructional emphasis on the grammati-

cal aspects of English or feedback given to students on their oral productions in many of our classes. In only 5 classes (those rated at 4.75 and above, namely 3C1, 3C3, 3C4, 3C5, and 3S5), did teachers appear to regard it as a subject that deserved major instructional attention and effort from them. Not surprisingly, their classes were among the top gainers in z-scores on the Language Arts Subtest of the CTBS.

3.2.1.9. Individualized Help

This variable consists of ratings on just one aspect of teaching, that is, on the frequency with which students are provided with instructional assistance, clarification or tutoring by teachers on an individual basis. In many classes, teacher assistants provide much of the individual help that is given to students. One might expect that the amount of such help that teachers themselves provide students would be inversely related to the amount of teacher directed instruction they engage in, and directly related with the amount of time they have students engaged in independent seatwork activities. One of the reasons some teachers seem to prefer independent seatwork for students over group or whole class instruction is that it frees them to give individualized attention to those students who need the most help. However, the view that teachers can provide more of the specially tailored instruction that is the most useful to students if they are not tied up in group instruction for much of the day was generally not supported by our observations. Quite the opposite, we found a generally positive relationship in classrooms between amount of teacher

directed instruction and individualized help, and a negative relationship between it and amount of independent seatwork, although in each case, the relationships approached, but were not quite significant. Ratings on this variable ranged from 2.00 to 6.00, with a median of 4.50, indicating that in general, most of the teachers found time to provide a fair amount of such help. The teacher who was the highest rated on this variable, was also the one who did the most teaching, the three who were rated the lowest were among the teachers who did the least formal instruction. It would appear that the same teachers who did a lot of formal teaching also managed to provide a considerable amount of individualized help to students. Those who relied heavily on independent learning in which students were given assignments did not always provide as much individual help as one might expect they would.

The help given to LEP students on an individual basis can be essential to their academic and language development. Until LEP students become quite proficient in English, they will have difficulty comprehending fully the explanations or instructions they receive in group lessons, since the language used by teachers in conveying such information is seldom comprehensible or transparent enough to allow them to figure things out for themselves easily. Teachers who are especially skilled in working with LEP students can, by combining clear simple language with demonstrations and illustrations, manage to successfully teach their students much of what they are to get out a lesson. This is most easily done when all of the participants in the lesson are more or less equally proficient in the language, and are at

the same level in the learning proficiency as well. In most cases, however, students can be grouped by level of learning proficiency, but not language proficiency. Hence LEP students may find themselves grouped with classmates who are much more proficient in English than they are. Teachers then have a much harder time providing the linguistic help needed by the LEP students. This is not to say that group instruction is not an appropriate way to teach them; quite the contrary, in most cases, it constitutes the most efficient way of providing LEP students with the linguistic experiences that allow them to learn English. Such group learning experiences are invaluable since they provide LEP students with opportunities to hear how the language they are learning is used by competent speakers. But as for content learning, students who are especially limited in English may get little more than the gist out of a group lesson.

The language used in teaching LEP students must be tailored to their level of understanding, and has to be accompanied by demonstrations, enactments and other non-verbal cues that illustrate the points being made verbally. The less proficient students are in the language of instruction, the more they need of such help; even with help, however, they are not likely to get any kind of detailed understanding of the content being taught. The problem is that the level of linguistic modifications that allow low English proficiency students to figure out what is being said are not easily managed in group instruction, especially when the learners in the group vary in language proficiency. What is appropriate for some students may not be for the others. Ordinarily, adjustments are based on feedback provided by the

learners as to whether they understand what is being said or not. When they appear to understand, then teachers can continue with the lesson. When students appear not to understand, then teachers repeat, rephrase, or try other means of communicating the information being taught. For that reason, help given on an individual basis is essential to learning. In working with individual students, teachers can determine how much help is needed, and they can tailor the presentation in ways that benefit the student most.

3.2.1.10. Informative Help on Oral Production

This variable consists of three characteristics on which teachers were rated:

(1) the extent to which they provided students with informative, diagnostic or explanatory feedback in oral production situations;

(2) the frequency with which teachers monitored children's work in progress; and

(3) the frequency which which teachers allow or request target children to provide additional responses when initial ones are incorrect.

Not surprisingly, this variable correlates with variables 8 and 9, both of which dealt with aspects of feedback provided by teachers on the oral production of students. The present variable concerns the quality and timing of feedback given in connection with student performance. Considerable variation was observed among teachers in the

kind of feedback they gave students on oral participation in lessons, or on work they were doing. That variation is reflected in our composite ratings for this variable; they ranged from 1.67 to 6.00 with a median rating of 2.67. In the lowest rated classrooms (1.67 to 2.17), the following practices were quite typical: during group lessons, teacher lets students know if their responses to elicitation questions are correct or not, but provides no hint as to why given responses are judged to be correct or incorrect; typically, when students give incorrect responses, the teacher occasionally give them another chance to redeem themselves, but more often than not, will call on someone else to supply the "correct" response; during seatwork periods, teacher keeps the students "on-task" as they work on their assignments, reprimanding them when they appear not to be working, answering questions about the procedures when they are raised, but otherwise leaves the students to work on their own.

In contrast, the following practices were observed in the higher rated classrooms: the teacher frequently asks students to tell the group how they arrived at a particular response, and then elicits from other students reasons why they think the response is correct or not (the two top rated teachers on this variable frequently summarize the reasons that are offered, thus providing a restatement of the point being taught); when students give incorrect responses, the teacher gets the student to rethink the question, and then offers another opportunity to get it right; the teacher observes students while they are working on seatwork assignments and checks to see whether or not they understand what they are supposed to be learning (sometimes by

asking individuals to describe the procedures they are following, or by providing additional explanations when needed.)

This variable is concerned with instructional practices that are an important aspect of teaching. Teaching can be seen as consisting of a number of operations: a major one consists of the presentation of the materials to be learned, whether in the form of written texts, or in the form of oral presentations; a secondary one in which students are guided through an examination or consideration of those materials whether in the form of a teacher directed discussion, or in the form of written discussions; and finally one consisting of exercises in which students are asked to apply what they have been taught to problems or new situations. Instructional success depends on what is done at each step. In the first, new materials are presented to the students; success depends on how well the teacher or textbook writer has judged what the learners will need to be told in order to make sense of the content, and on how the materials are organized and presented. In the second operation, instruction involves checking to determine what the students have understood of the materials that have been presented, correcting misapprehensions and mislearnings, and consolidating newly acquired knowledge into previously learned structures of knowledge: success depends in part on how the discussion is set up (how the activity itself is structured, the kind of questions asked, the way turns are allocated, etc.), and even more important, on the way teachers deal with student contributions to the discussion. When teachers provide explanatory or informative feedback, they are in fact providing additional instruction in ways that may be more meaningful

to the students than are their formal presentations since this added instruction is builds on things that the students have already learned, whether correctly or not. When teachers don't provide this kind of added information, students are left to figure out for themselves why particular responses are acceptable while others are not. Some students can do this, but others can not. In the third operation, instruction involves the assignment of exercises which have students demonstrating their understanding of the materials, or practicing the skills they have been taught. Successful instruction depends on students being provided with guidance in the form of corrections, explanations, additional information, modeling of procedures, and reinforcement. In those classrooms in which student work was not monitored while in progress, misunderstandings or mislearnings were frequently not discovered until the work was graded.

The relevance of this instructional variable for content learning is obvious; it is also relevant for language learning. What others say in response to learners' attempts at communication in the target language can be the most useful and important kind of linguistic feedback and input they can be given. By the way others respond, they can judge whether or not they have successfully communicated what they had to say, and they are given an opportunity to hear what other speakers of the language might say in response. When teachers are helpful and informative in giving LEP students feedback whether on their verbal contributions or on their work they are also providing them with useful and informative linguistic input on which they can further their learning of the new language.

3.2.1.11. Feedback on Written Work

This variable consists of ratings on one feature of teaching, namely, the extent to which teachers provide students with informative, diagnostic or explanatory feedback on written assignments or homework. As in the previous variable (#10), the concern here is with frequency and quality of the feedback given to children on their work, this time on written work rather than on oral productions. Here again, teachers vary greatly in the feedback they gave students on their work. Ratings ranged from 1.00 to 6.50. 2 of the 19 teachers involved in the study could not even be rated since we could not determine what kind of feedback they gave students on written assignments. Well over half of those we could rate (that is, 9 of 17) were given ratings of 1.00 or 2.00. In some of the lowest rated classes, teachers were often very late in grading and returning written assignments to students. In those classes, whatever feedback was given to students was of limited usefulness to them since so much time had passed before their papers were returned to them that they had forgotten the point of the assignment. In the other classes, written work was graded and returned soon enough, but all too often, there was little in the way of informative or diagnostic feedback given to the students. Errors were marked and the work was graded, but students were given no other explanation or diagnostic information on them. A common practice for teachers was to have students correct their own or each other's papers. After having students trade papers, teachers would call off the correct answers which the students would mark, or they might call on students to give read the answers to the items in

turn. Once graded, these papers were sometimes collected and the scores recorded, but often enough they were simply handed back to the students. Students received no additional feedback on their work unless they went to the teacher to ask for explanations about the grades they had been given, something that many of the children found hard to do. At the other extreme were the few teachers who routinely provided a great deal of informative feedback to students on their written work. The highest rated teacher, for example, had a 2 or 3 minute individual conference each day with every student in his fifth grade concerning the written work they had done the prior day. The remarks we observed this teacher making to students on their work indicated that he had apparently gone over their work rather carefully, and that he frequently gave students individual assignments based on his assessments of prior work. Another teacher who was highly rated on this variable frequently selected student papers to discuss with the entire class. The papers selected for discussion by this third grade teacher appeared to be ones that contained common mistakes, or were exemplary ones.

This variable is one that is clearly relevant to the development of written language skills for all students, and may also be relevant for academic learning as well.

3.2.1.12. Extended Responses Required and Modeled

This variable was derived from ratings on three separate teaching characteristics:

(1) The frequency with which teachers ask questions that require extended oral responses (that is, that call for more than a single word or short phrasal response);

(2) The frequency with which teachers require target students to compose extended written texts; and,

(3) The extent to which the teacher's language could be considered a "good language model", (that is, can be characterized as using rich, elaborated language, appropriate vocabulary, structurally well-formed sentences, clear articulation, accurate spelling, etc.

Combined ratings for the 19 teachers ranged from 1.33 to 6.33 on this variable, with a median of 2.99. The lowest rated teachers were ones who almost invariably structured "discussions" in ways that did not require students to do anything more than supply short answers to elicitation questions. The questions they ask are call for specific answers, for example: "Who can tell me what the past tense of "hold" is?" or, "What do we call plants that grown in an aquarium?" These teachers seldom asked questions that invited any real discussion such as we observed in classrooms that we rated higher on this variable. Similarly, the teachers who were rated low rarely asked their students to compose extended texts as other teachers did. One of the lowest rated teachers had her third grade class copy a short essay that she wrote on the board each day, but as far as we could tell, she never once during the year had her students composing longer than a sentence on their own. The purpose of the daily copying exercise was never

clear to us (nor to her students for that matter), although it sometimes occupied much of the daily period that was assigned to "language arts". Another low rated teacher had her students writing in English every day, but they were never required to produce texts that were longer than a sentence.. Her practice was to give the students a list of English words (for example, "silk", "nest", "strong", etc.) which they were to use in sentences, and they did: "This is silk", "This is a nest", "This is strong", etc.

In contrast, the highest rated teachers were ones who required frequent compositions, letters, journal entries, and the like. The highest rated teacher had the students making daily entries in their journals. They were invited to write down their most private thoughts, and they did even when those thoughts were about the teacher. One student, who felt that he had been unjustly reprimanded by the teacher, vented his anger in his journal, knowing that it would be read by the target of his hostility. The teacher did read it, and returned it to the student, with a few written comments on the organization and structure of the entry. Another teacher had her students doing a lot of letter writing, mostly to local and national leaders. One assignment this teacher gave her third grade class was to write to President Reagan to express concerns that the class had raised during a social studies discussion about hunger in America. During the discussion, the students who were themselves the children of newly settled migrant farmworkers had much to say about being poor and hungry--everyone seemed to know someone who used to be so poor they didn't have anything to eat. This teacher led the discussion adroitly, and

allowed her third graders to share their experiences with one another. The letter writing experience gave them an opportunity to practice communicating their thoughts in writing to someone they thought should be informed about the problem.

Interestingly, our observations showed that the teachers who gave their students the greatest number of opportunities to develop and exercise oral and written language skills were generally the same teachers who were the best language models for them. The teacher mentioned above as being the highest rated on this combined variable lavished linguistic attention on his students throughout the day. Because many of the children in his classroom were quite limited in English proficiency (beside the many LEP students in this class, there were also several newly arrived non-English speakers), the language used by this teacher during morning sessions (when reading, math and social studies were taught) tended to be carefully modified and relatively simple. Nevertheless, compared to many teachers who limit their speech in talking to limited English speakers to short, stilted, unnatural phrases, this one was inclined to use expressions that were entirely idiomatic, although he spoke without the flourishes and embellishments of his more natural style.

The language he used in talking to the class during the afternoons was markedly different. The afternoon session which began each day with a period this teacher dubbed "Super-silent Reading" was devoted to language arts--literature (fiction and poetry daily), journal writing, sharing, oral language development. During this part of the day, the teacher seemed to shed the linguistic restraints that

were necessitated by the situation, and would use a rich and varied set of words and structures in communicating with his class. He greeted the students (waiting eagerly outside the classroom door for the afternoon session to begin) with a special saying or ditty that related to the theme of the day's language arts lesson. On one of the days we observed him, for the (n)th time (it was apparently a class favorite) he greeted the students with a broad grin, an ostentatious bow, and the old saying, "Come into my parlor, said the spider to the fly!" The ensuing lesson that day involved a discussion of how the world would appear from the perspective of a spider sitting in its web high above everything. During this period, the students were invited to imagine themselves as a spider on the ceiling of their choice, and then to tell the class (and later to write an essay) about what they had seen.

In contrast to the teachers who were rated highly on this variable, the ones who least frequently gave students opportunities to produce extended oral and written language responses tended to be somewhat taciturn and sparing in their own speech. One of the lowest rated of the teachers on this characteristic was someone who rarely gave any explanations, and in fact rarely talked in class. In a tally of talk versus silence, this teacher was found to be speaking just 14% of the time, and silent 86% of the time . The top rated teacher was speaking 54% of the time, and silent just 46%.

This variable is concerned with the quality of the language students are hearing and practicing during the course of the school day, and as such it is clearly relevant for language learning. The

development of mature language skills whether in oral or written form depends on exposure and practice. But the quality and quantity of language use in the classroom serves an important function beyond that of providing opportunities to hear and use the new language. One of the ways in which children develop mature thinking skills is by being engaged regularly in discourse which allows them to observe the way in which others deal with ideas. By listening to a teacher who is skilled in presenting information or in explaining ideas, children can learn how to organize information, and to lay out reasoned arguments. When they participate actively in these discussions, children get practice in formulating and presenting their own thinking to others. The aim of this kind of practice is clarity in communication, but the ultimate payoff for learners is clarity in thinking.

3.2.1.13. Opportunities for Oral Participation

This variable is based on ratings of the extent to which teachers provided opportunities for all of the children in their classes to participate orally in instructional activities, either by calling on them or by opening the floor to volunteers. Ratings ranged from 2.00 to 6.75, with a high median of 4.25 indicating that in most cases, turns for oral participation were fairly well distributed. In assessing this variable we focused on oral participation in class discussions, irrespective of the language in which these discussions were conducted. In Section 3.2.2, the focus was on opportunities for oral participation in English. Although the two are highly correlated, the teachers who were rated high on the present variable were not

necessarily as high when opportunities for participation in English run activities were considered. Some teachers tended to call on LEP students when the instructional activities were conducted partly in the L1 (i.e., bilingually) of the students, but not when they were in English only. The teachers who were rated low on this variable were ones who tended not to use systematic turn-allocation procedures, or were inclined to favor only the most eager students with turns.

3.2.1.14. Written Responses Required

This last variable is based on ratings of the extent to which teachers required written work from students as a regular part of instructional activities. Ratings were generally quite high on this item, ranging from 2.00 to 6.67 with a median of 5.75, indicating that in most cases, teachers did require written responses from students on a regular basis. The type of written responses children were called on to produce varied considerably as noted earlier in connection with Instructional Variable #12 when the question of whether or not teachers were requiring extended oral or written responses was discussed. In the present ratings, we were concerned not with the kind of written responses required, but simply with whether they were required at all. The three lowest rated teachers on this variable (2.00 to 3.00) seldom required their students to produce any written responses beyond those called for in workbook exercises. The aforementioned teacher who had her students copy a 4 or 5 sentence essay from the blackboard each day as part of their language arts experience is one of them. Aside from this one writing task, the students in her class did no other writing

except as required in their reading and spelling workbooks. The students in the other two low rated classes were required to do a little writing occasionally, but it was not regular enough to add up to much use.

In contrast, the highest rated teachers frequently gave written assignments to students in connection with all content areas. A third grade teacher, for example, had his students creating word problems for addition and subtraction problems. Another teacher had students writing down the words of their favorite songs from memory. Yet another teacher had students listing in their notebooks words they were seeing or hearing for the first time.

3.2.2. Instructional Language Use Variables

The set of classroom variables characterized as Instructional Practices in the previous section focuses on the development of academic language skills that are dependent on formal instruction: reading, writing, spelling, "grammar", etc. Some of them are also relevant to the development of second language skills which have to be learned, but cannot be taught, per se. These include the abstract rules of grammar (in the linguist's sense of "grammar"), meaning and usage that enable the learners to speak and understand the language, and to read and write as well. According to current linguistic theories, the deepest and most critical kind of grammatical knowledge, that which undergirds language ability and proficiency, is acquired quite unconsciously, and remains pretty much below the level of aware-

ness in those who know the language. This knowledge consists of an enormously complex and abstract system of rules that govern, among other things, the sound and meaning relations in the language, the arrangement of forms into structures, and the meanings and functions that particular forms and structures take on in different contexts. At present, the linguistic knowledge that learners have to acquire in order to speak and understand any language at all (including English) is not well-defined or understood either by linguists who specialize in the study of linguistic knowledge and language learning behavior, or by educators who specialize in the teaching of language. This is (not) to say, of course, that language educators know nothing about language learning, nor that language teaching is a futile enterprise. Not at all. Much is known about the "surface aspects" of many languages: their sound systems, their morphological forms (e.g., words and other meaning bearing elements), their structural patterns and their pragmatic uses. These can be, and are taught, to second language learners through some formal programs of language instruction. The English as a second-language (ESL) programs that were available in some of our sites generally aimed at providing LEP students with formal instruction on these aspects of English.

What can not be taught is the system of abstract and not well-understood rules which give the surface features of language their form, meaning, and function, and which regulate usage. Learners have to acquire these all-important aspects of language, pretty much without formal instruction. That does not mean that they can learn it entirely on their own, however. They have to have the help and colla-

boration of people who already speak the language in order to discover how the language is structured, and how it works. Speakers of the language play a crucial role in language learning by providing learners with "linguistic input", speech samples produced in the course of interacting with learners which eventually permit them to discover and acquire the same set of rules the speakers have. According to theorists, language samples contain evidence of the rules by which they were originally composed and used. By analyzing such samples, it is possible to discover the underlying knowledge involved in generating them. This is a greatly oversimplified account of what language theorists believe, of course. Nevertheless, their view generally is that learners acquire language by the process of analyzing (largely at an unconscious level) the linguistic data that speakers provide them in the form of speech samples. Their analyses eventually result in the discovery of much of the system of abstract grammatical rules that speakers of the language possess. In the process of sorting these rules out, the learners acquire them, and in doing that, they acquire the language itself. Basically, any competent speaker of the language can provide the help needed by its learners. One does not need to be a an expert in language learning, or a teacher even, to help in the learning of a language. One simply has to be a competent speaker of the language, and be willing to use it while interacting with those who don't know the language, but need or want to learn it. Parents and other family members are, without question, the best providers of such assistance, judging from their success in helping babies learn language. They almost always figure out what it takes to help new members of the family learn the language of the home, no

matter what that language happens to be. Much of this happens when parents do what comes naturally to them; only rarely are they aware of the part they play in language learning, or of what is involved in the process itself.

And in the case of a second language as English happens to be for many children in our society, the help needed for language learning comes from classmates and friends and teachers at school. English speaking classmates are very important, but there aren't always enough of them to go around, and they are sometimes not interested in interacting with classmates who do not know English already. Thus, teachers play a major role in providing LEP students with exposure to English and help in learning it as a second language. They make it possible for all of the students to get access to the language to be learned, and they can also provide students with exposure to precisely the kind of language that they have to learn--namely the structures and forms that are used in academic settings and materials. The language that teachers use in formal lessons and in other types of instructional activities can serve as input for the language learning that the LEP students have to do on their own. The language produced by speakers of the target language becomes input when it meets certain conditions. First, it must be produced with the learners' needs and linguistic limitations in mind. Speakers, recognizing the fact that the learners are less than fully proficient in the target language make adjustments in the form and content and content in communicating with them. These adjustments generally have the effect of making the language used somewhat easier to understand. Researchers who study

the language which speakers produce for learners have found that it tends to be structurally simpler, more repetitive, and more "regular" than ordinary language. The adjustments made by speakers for the sake of learners are not always helpful to them; in talking to learners, speakers sometimes use "foreigner talk" forms, language that has been made ungrammatical through reductions and simplifications, in the mistaken belief that simplifications rather than simpler usages will make things easier for learners to understand. More often than not, however, when speakers make adjustments in their speech in the interest of communication the result is helpful to the learners. Speakers often accompany what they say with gestures, demonstrations, and enactments in trying to communicate with learners. These speech accompaniments can provide a certain degree of redundancy, which can help the learner figure out what people are saying. Non-verbal cues are an important source of information for learners during the initial stages of language learning especially.

In this section, a second set of instructional variables is described, this one consisting of features of instructional language use in classrooms that enable it to serve as "linguistic input". There is some overlap between the two sets of instructional features. For example, the practice of using repetition, explanations, paraphrase, and exemplification when students appear not to understand is treated in both sets of variables. However, in the first set of ratings, we considered such adjustments irrespective of language. In the case of the bilingual teachers, ratings reflected their language practices in the L1 and in English. In the present set of instructional

language features, ratings were based solely on the English used by the teachers. The purpose of this set of ratings based only on the teachers' use of English for instructional purposes was to determine to what extent their patterns of language use influenced the LEP students' of English language skills. Two types of data were used in assessing the instructional language variables. The first was supplied by the Research Assistants who had spent the school year conducting observations and testing students in each of the seventeen classrooms. Each RA completed a debriefing form at the end of the year in which they assessed the classroom on a large number of instructional variables (See Appendix D). Among them were a series of detailed questions concerning the patterns of instructional language usage the RA had observed over the year. The purpose of this debriefing form was to collect the RA's impressions that could later be compared to the more careful analyses that we would be doing on the basis of the video and audio recorded data that had collected during the year. The evaluation began, however, with the ratings that the RA's had provided us of their general impressions of the extent to which the teacher exhibited the following behaviors and strategies:

Second language input:

1. Language tutoring (e.g., modeling answers, patterning answers, labeling, expansions, language explanations, corrections of child utterances, etc.

2. Eliciting language (e.g., asking questions, prompting with slots, prompting with models, calling on students to talk.

3. Formatting statements (Instructional directives, announcements, structural comments)

4. Content taught verbally (providing information,

explanations, etc.

5. Content taught nonverbally (demonstrations, illustrations, enactments, etc.)

6. Modifications of previous utterances (upgrading, paraphrasing, downgrading, repeating with expansions, repeating with simplifications, etc.)}

Teacher feedback and response:

1. Evaluative feedback to answer or utterances (e.g., evaluating or correcting)

2. Confirming, acknowledging feedback (teacher lets students know whether or not they have communicated successfully)

3. No feedback (e.g., no response, or ignores student)

4. Request for feedback or confirmation (teacher checks to see whether or not students understand)

5. Rescue in L1 (Teacher translates or prompts in L1 when students appear not to understand)

6. Rescue in L2 (Teacher answers for child or models response in when child fails to respond)

Social control and response:

1. Behavioral directives (including requests for attention)

2. Evaluating behavior (reprimands or praise)

3. Response to compliance with directives

4. Response to rejection of directives

Our research assistants were directed to use a rough scale beginning with 0 (for never) to 4 (for very frequently) on this checklist. Later, and without reference to this earlier rating form, they prepared check sheets using the same list of teaching behaviors along with a list of student behaviors based on the video tapes that had been collected, segment by segment. On this check sheet (which is

attached as Appendix A), the R.A.'s merely checked each item if there was any evidence of it in a given segment of tape. These checksheets were not tallies of teaching behaviors, they were merely indications that the checked behaviors had occurred at least once in a given segment. These checksheets served as guides for us as we went through the taped materials to do our ratings of teaching behaviors.

A set of 38 descriptors of aspects of teacher's instructional language use, and of structural or organizational features that affected the number and kinds of opportunities available to LEP students to hear and practice using English in the seventeen classrooms was used for deriving this set of data. These ratings were based on the audio and video recorded data that we had collected in the classroom over the course of the year, and based on a set of observations that the PI conducted in the classrooms during the study year. The rating form is included here so the reader can see what was included in this set of instructional features.

Figure 3.1
Rating of Instructional Language Use Relevant to L2 Development

	Rating [1-7/NA]	Comment
<u>Instructional language features</u> [i.e., the language used by teachers in formal lessons and during other teacher directed instructional activities conducted in English]:		
01 Teacher produces language in presenting lessons and in leading discussions which, from the perspective of the LEP students, seems to be clear, relevant, coherent and easy enough to follow.	----	

02 Teacher uses structures that seem to be at appropriate levels, given the language level of the LEP students involved in the activity. ----

03 Teacher uses vocabulary that seems to be at appropriate levels, given the language level of the LEP students involved in the activity. (N.B. But since vocabulary choice depends in part on the subject matter being taught and in part on the language level of the students, lexical choice has to be judged both in the context of specific lessons and also from the perspective of the students. The words that are used should be appropriate and reasonably precise, however.) ----

04 Adjustments in the level of structural or lexical usage appear to be based on feedback provided by students as to whether or not they understand what the teacher is saying. Adjustments are made upward or downward as needed. ----

05 Teacher makes adjustments in the level of the content being presented as required, based on student feedback. Adjustments are made upward or downward as needed. ----

06 There is evidence of message redundancy in the presentation of lessons, by use of repetition and paraphrase. (That is, teacher often says things in more than one way to get her/his point across to the student.) ----

07 The language used in lessons tends to be high in situational anchoring. (That is, the language used by the teacher is often keyed precisely to what she/he is doing, or to the activity at hand.) ----

08 Teacher makes frequent use of enactment, demonstration, pictures and other realia in the course of presenting lessons to LEP students. ----

09 Teacher often relates new or unfamiliar language, information, and experiences to old or previously learned materials. ----

(Contextualization of new to given or known whether to help orient learners to the new experience, or to help them put them figure out what is going on is the concern in this item.)

10 Teacher makes frequent use of various forms of exemplification in her/his presentations. Examples can be instances, functions, or variants even. ----

11 Teacher makes use of explicit discourse markers such as "first", "then", "before", "for example", "Let me explain", "I have three things to tell you about", "Let me say that to you in a different way", etc. to help the students follow what is being presented. These comprehension aids are meant both as structural devices that help the listener to sense the organization of the lesson, and as traffic signals that allow them to sense what direction the discourse is taking. ----

12 The English used by the teacher during formal lessons and in other instructional activities is native-like in grammaticality and pronunciation. It provides the LEP students with a clear and adequate model of standard English. ----

13 Teacher frequently calls attention to language in the course of using it for instructional purposes. (That is, the teacher comments on meanings, usages, or the functions of language whether or not lesson deals specifically with language.) ----

14 Teacher tends to present information in paradigm-like sets. (That is, the teacher often uses the same syntactic structures repeatedly in a given exchange. Each sentence differs from the others in particulars, but they are structurally similar. The result should be "structural transparency" rather than repetitiveness.) ----

15 The teacher often discusses vocabulary items explicitly (not just during language arts or reading instruction). ----

16 The teacher often discusses grammatical ----

structure explicitly (not just during language arts or reading instruction).

17 The teacher emphasizes communication and comprehension in her/his lessons. (That is, the teacher often indicates that she/he is more concerned about effective communication and understanding in presentation of subject matter than she/he is about control or efficiency in covering all of the materials at hand.) ----

Instructional Language Features Related to Content:

18 It is usually clear what the teacher's instructional goals are for a given lesson. (That is, it becomes obvious to the students what the teacher is trying to teach them during the course of an instructional activity.) ----

19 The content being covered during formal lessons appears to appropriate for the grade level. (While the curriculum may have to be adjusted because the children are limited in their English proficiency, it should not be reduced to curricular pablum--a relative judgment is called for here.) ----

20 The teacher often tries to inject some richness into the materials that are covered in the curriculum. (The teacher does not provide the students with a bare minimal coverage of the curriculum just because they happen to be LEP, but tries to go beyond that by giving them experiences and teaching them things that add some enrichment to their education. ----

Structure of Lessons:

21 It is usually clear what the teacher expects the students to be doing or getting out of a given lesson. (That is, it should be obvious to the students what the teacher expects them to be doing, or what she expects them to getting out of what she is teaching them.) ----

22 The structure and conduct of lessons in this classroom are well-enough established so it can predicted by time and place what the students should be doing (and learning) throughout the school day. ----

23 The teacher has established consistent lesson formats (or scripts) for lessons in each subject area (e.g., reading, math, science, etc.) ----

24 There are clear and well established phases in each lesson. The students appear to know what is going to be happening in each phase, and they seem to know what is expected of them throughout the lesson. ----

25 There are clear lesson boundaries. It is clear when lessons taught by this teacher have begun, and when they have ended. Teacher signals the beginnings and endings by by well established verbal or non-verbal cues. ----

26 The lessons in this class follow a daily schedule, and this schedule is generally adhered to. ----

27 This teacher's lessons tend to be consistent across days for a given group, and across groups for a given day. Each group gets a more or less equivalent experience, both in time, and in the quality of the experience. ----

<u>Opportunities for Students to Practice English in Class</u>:

28 Everyone (particularly the LEP students in the class) gets turns for verbal participation in teacher directed instructional activities. ----

29 Students are called on to give extended responses during teacher directed instructional activities. ----

30 Students in this class have many and varied opportunities to engage in verbal practice and recitation ----

using English each day.

31 Students in this class are free to talk with one another during class. They are not discouraged from working together, or from talking with classmates while working. ----

32 There are many students in the class who know English well enough to provide input for the LEP students (English monolinguals and bilingual students who are fully proficient in English). ----

33 The LEP and FEP students (bilingual or monolingual) take advantage of opportunities to interact with one another during classtime, and they make use of English during these interactions. ----

34 LEP students in this class have many opportunities to interact with English speaking classmates because they are grouped together for instruction during the day, or because of seating arrangements. The social dynamics of the class favor interaction between the two groups. ----

35 There are built-in opportunities for students to interact with one another in English during class (e.g., formal or informal peer teaching, groupwork). ----

36 The teacher provides ample feedback in English to students on their verbal participation. ----

37 The feedback which teachers provide for the students is useful--e.g., they consist of expansions, subtle correction through rephrasings, etc. ----

<u>Language Separation</u>:

38 The teacher keeps the two languages of instruction completely separate, and neither engages in language switching nor in translation. (The separation might be by person, subject or by session.) ----

Note that the specific focus in this set of ratings is the use of English in instructional activities, not the use of the students' L1. Instructional language use in general (whether the L1 or L2) is rated on the "Classroom Features Relevant to Language Learning" form. There means a certain amount of duplication of effort in the case of the English-only classrooms, since the ratings that were done there was on English too; many of the items on this list were not on the other, so it has to be done for every teacher.

Four major aspects of instructional language usage were assessed by the use of this rating form. The first related to characteristics of language as "linguistic input", the second to the communicative content of the language that is produced in instructional activities, the third to structural characteristics of instructional activities that appear to affect the utility of the language as input, and the fourth to aspects of instructional organization that affect the extent to which LEP students find opportunities to practice using English in instructional activities.

Ratings were done in the following way. The same audio and video recorded materials that were used for the ratings that yielded the previously discussed set of instructional variables served as the basis for this set. Ratings were made on each of the 38 descriptors of language usage after viewing or listening to the recorded materials that were available for a given class. Separate ratings for each class were done on the recorded materials for a particular day of observations and were averaged for each feature over however many days of recorded materials that we had.

Ratings on these language use descriptors were grouped for analysis in several ways. These 38 features fed into 11 combined variables related to language use in the classroom. The 11 combined variables were these:

1. Good input (items 1-17)
2. Appropriately adjusted content (items 18-20)
3. Structural support for input (items 21-27)
4. Opportunity to practice English in teacher directed instructional activities (items 28-29)
5. Opportunities to practice English with peers (items 31-33)
6. Built-in opportunities to interact with classmates who speak English through peer teaching, grouping, or seating arrangements (items 34-35)
7. Total practice in English
8. Teacher provides useful feedback (items 36-37)
9. Language separation
10. Percent time in teacher directed instructional activities
11. Percent time in individual seatwork

The students' progress in language learning over the course of the study year was examined against this set of variables as well as the set of instructional practices variables described earlier in this Chapter. These variables were later combined into larger summary variables by statistical means that are discussed in Chapter 4. The features of instructional language usage covered in this set of ratings found their way into two main summary variables, namely one that is described as the "Instructional Language as Input" variable, and

the other that we can describe as the "Opportunities to practice using English with peers and teachers" variable. The first incorporates the input, content and structural descriptors listed on the rating form (i.e., variables 1 to 3 above) while the second consists largely of the interactional opportunity items (variables 4, 5, and 6 above). Both will be discussed in some detail in Chapter 4 since they, along with a number of the instructional practices variables that have been described previously were found to influence language learning in our seventeen classroom in crucial ways.

CHAPTER 4

ORAL LANGUAGE VARIABLES

In general, our language assessment was aimed at the kinds of English language proficiencies that are important for school learning. It seems obvious that speaking listening, reading, and writing are all important language activities in school, but language assessments in the past generally have not done justice to the full range of school-related language skills. Some assessments, for example, focus entirely on the child's knowledge of syntax. Others test the learner's knowledge of English vocabulary exclusively, or at particular abilities such as those involved in sentence repetition, or auditory discrimination of minimal phonetic contrasts. Few of the instruments currently used for assessing language proficiency are based on performance in tasks that bear any relationship to actual uses of the target language in the real world. The usual approach is to elicit a sample of the child's speech, or a measure of the child's performance in a task based on knowing some aspect of the language, and to conclude that that constitutes a reasonable representation of what he knows and can do with the language in other situations. Implicit in such an approach are the assumptions that 1) all uses of a given language draw upon a common core of linguistic knowledge, and 2) that core constitutes the essence of language proficiency. What this view overlooks is the likelihood that each mode of language use makes unique demands on the language user.

There has been considerable interest in recent years in establishing the differences that exist between the linguistic abilities and skills involved in using written language and those involved in oral language, and in determining what implications such differences may have for education. We have argued that even within these two domains, further distinctions need to be made with regard to the demands of one task or another (McLaughlin, 1985; Wong Fillmore, 1982). There appear to be important differences between the talk that is used for teaching and learning and that which is used for other purposes (Edwards and Furlong, 1978). Moreover, it seems likely that each mode of language use entails a number of dimensions or facets that should be distinguished. Consequently, we have tried to assess each mode of English proficiency in as much depth as possible, by having our subjects perform a variety of speaking, listening, reading, and writing tasks that are as nearly like those they have to perform each day in school as feasible, and by looking at their performances in a number of different ways.

In some respects, we have attempted to simulate in our language assessment procedures, the kinds of communicative demands that are placed on children when they are taught in English. The language skills and knowledge they have to apply in dealing with our tasks are all those that they have to use in dealing with instructional activities that are conducted entirely in English. In other respects, we tried to probe beneath the surface of children's response to such demands. Our aims have been to establish how far our subjects have progressed in their learning of English based on their performance in

our tasks, and to determine how adequately they can handle English instruction based on what they have learned. In addition, we have collected parallel data on our subjects' performances in their first languages, whenever that was feasible. Our goal in this regard was not to measure language dominance per se, but to assess the impact of first-language proficiencies on second-language learning.

4.1. Oral Language Assessment Instruments

In this section we discuss the rationale underlying the development of a procedure for assessing oral English language proficiency in LES students, and discuss what it can reveal about the development of English language skills in second-language learners.

The first problem we faced in developing this procedure had to do with deciding the kind of language skills to be assessed. This was not a small problem. The tests of language proficiency which are widely used for the classification and placement of NES/LES students into special programs assess various aspects of linguistic skills, although few of them focus on more than one or two specific aspects linguistic ability. A given test, for example, might assess vocabulary comprehension or production exclusively, or it might narrowly focus on assessing the extent to which a small set of grammatical morphemes or particular sentence patterns appear in the speech of learners. Others focus on assessing the ability to answer questions or to imitate test sentences. The best of these assess a range of such skills.

Nearly all such tests assume that when one learns a language, the levels of development throughout the system being acquired are more or less equivalent. Hence a sampling of any part of the system will reveal the state of the whole. They also assume that the linguistic skills being measured are general rather than functionally specialized; hence the demonstration of language skills in a test performance will predict how well the student will be able to function in any other activity carried out in the language, independently of whether it is an academic activity or one that is strictly social. The idea behind this view of language proficiency is that language knowledge is unitary and homogeneous. To test language proficiency, one simply needs a small sample--no matter what its source--and that suffices. The tiny sample would reveal the state of the whole, and whatever purpose the whole can serve can be discerned from an examination of the bit.

The approach we took in deciding what language skills to assess was to conduct a functional analysis of the language students actually have to handle if they are to participate effectively in classroom learning activities. We went into classrooms to study the language used by teachers in their teaching of lessons. We assumed that if students are to learn what they are supposed to get out of those lessons, they must be able to understand the language being used in them. Further, if they are to get full benefit out of these activities, the students have to be able to produce the language required for participation in such lessons. All-day observations were conducted in 12 third and fifth grade classrooms over a four month period; some of

these classes were designated as bilingual ones by school officials, and some of them, all-English. Some were like the classes we eventually selected as research sites for this study, but some were not. We wanted for our investigation of classroom language requirements a representation of the full range of demands that LEP students might encounter in the kind of schools they were likely to attend. Recordings were made of full range of instructional activities conducted in the twelve classrooms on audio-tapes, and observational notes were made during these on-site visits which enabled the later descriptions of the instructional events that had taken place during the day. Representative activities were later transcribed, and the form and function of the language used by teachers and students was analyzed and described (Wong Fillmore, 1982).

What resulted from these efforts was a characterization of the language functions children are expected to handle in instructional activities, and a description of the skills they must have in order to participate in these activities (many of these being linguistic skills that teachers expect students to have). The approach we took to assessing the development of oral English language skills in our subjects has been to look at the degree to which they had acquired, and were able to handle, the kind of language teachers assume children have when they instruct them in English. Our aim was to develop a test that had ecological validity: one that assessed the ability to handle the various functions of academic English that students encounter in instructional activities. These functions included:

(1) Instructional language functions:

Procedural language
- Turn allocation statements
- Formatting and instructional statements
- Contextualizing statements
- Directives concerning behavior, participation

Language used in exchanges of information
- Explanations
- Descriptions
- Relational statements (new to old information)
- Definitions and exemplifications
- Summaries and recapitulations
- Requests for information, explanations, summaries
- Requests for feedback and confirmation
- Evaluative statements

(2) Productive language functions:

Self-initiated speech
- Explanations
- Descriptions
- Informational statements
- Requests for help, clarifications
- Requests for information
- Requests for attention, turns

Responses to teacher elicitation sequences
- Opinions solicited by teacher
- Information as requested by teacher
- Illustration of points as requested
- Instances of classes, categories as requested
- Summaries or restatements as requested
- Restatements of information provided in the lesson

Further, our goal was to assess the language skills required for handling such functions pretty much in the way children were called on to demonstrate them in school; hence we designed an assessment procedure that resembled an actual classroom lesson, thus insuring that the procedure had a certain degree of face validity.

4.1.1. The Shell and Rock Games

The procedure we devised took the form of a science lesson in which our subjects are taught some information in a format that is similar to a real classroom lesson. The language used in it can be characterized as formal "teacher talk", the kind of language English speaking teachers use in formal lessons in to convey information to students, to explicate them, to instruct students in what they are to do, and in eliciting verbal responses from them. It is language which can be characterized as highly decontextualized. While some of the expressions that are used have quite well-established conventional uses in lessons and thus the speaker's communicative intentions can be understood without reference to the language that was actually spoken, much of what is being communicated in this simulated lesson can be understood only to the extent that the learner actually understands the language that is used. There are two versions of the instrument: one is a lesson on shells, which we call "The Shell Game," and the other is a lesson on rocks, which (for symmetry) we call "The Rock Game." The Shell Game is the instrument used to establish the level of oral language proficiency the subjects in our study had at the beginning of the study year and the Rock Game was used to assess their oral language proficiency at the end of the year. The two are identical in format, but as it turned out the Rock Game was somewhat more difficult (a problem we will discuss later).

Each involves an audio-recorded lesson which is set up in a way that has the subjects actually interacting with and responding to a canned teacher, verbally and nonverbally. There is a collection of

actual materials to look at, handle, and talk about-- shells in one, rocks in the other. The purpose of the procedure was to "teach" the students some information they could put to use in carrying out some simple tasks as directed, and about which they could talk, in response to elicitation questions put to them by the taperecorded teacher. In fact, however, it did not matter so much whether they were actually "learned" what was being taught as it was for them to be able to get the gist of it what had been said, and to be able to give it back, or to make use of it in responding to questions about the content. One of the problems we faced in putting together the instrument was in getting children to respond to a taperecorded voice. Because of the unnaturalness of talking to an inanimate object such recording machine, many children simply do not respond to it. It is hard enough at times to get them to respond to flesh-and-blood interviewers. To make the interaction as realistic as possible, we arranged things so the subject heard both the stimulus tape and their own voices through the same channel via a pair of Sony walkman-like headsets. The resulting auditory feedback of their own voices heard in juxtaposition to the recorded teacher's voice was strangely intriguing; it had the effect of giving them the impression of speaking with the teacher over the telephone, or perhaps on the radio. In any event, this auditory gimmick was just strange enough to trick just about everyone into thinking that they were actually dealing with a real teacher. With few exceptions we were able to get a more than adequate measure of their performance through this procedure. The language used in the lesson was designed so that no matter what or how the children responded, they would receive some appropriate feedback. This had the

effect of involving them totally in the task.

The lessons were constructed in ways that made them suitable for children from first through the end of fifth grade. We used the tests only with 3rd and 5th graders, but we piloted them on children as young as first graders. This was necessary since we wanted the same instrument

to be usable with both of the grades that our subjects would be drawn from, and no matter what their level of language proficiency. We hoped that by providing all of the information needed to answer the questions and to complete the tasks that we would be asking of our subjects, and by having the lessons deal with topics and subject matter of equal interest to children in the first 5 grades, we would be able to handle the entire age range we were dealing with. What we aimed for was a procedure that would get at the <u>language level</u> of the children, and not the educational level nor the academic aptitude of these children.

The Shell and Rock Games were thus designed to teach children about some things they could talk about and do during the test. The procedures gave them information about shells and rocks, and it then had them talking about certain of them and arranging them as requested by the taperecorder teacher. The language used is like that used in classroom lessons. The teacher told about the shells or rocks that the subjects had before them. The children could thus examine the materials that were being discussed or described, and they see what the teacher meant, provided they understood what she was saying.

Although the children had the materials that comprised the topic of the lesson before them, they would have been able to get the gist of the teacher's utterances only if they knew the language. As mentioned earlier, much of the language used in the lesson was decontextualized and required that the children understand the language, in order to interpret what was being said or what they were being asked to do. The items were generally arranged from easy to difficult ones, and the information that was given in the lesson built up gradually so that the ability to comprehend and handle each subsequent item depended on information and experiences that had been provided previously. Transcripts of the Shell Game and the Rock Game are found in Appendix B.

The tests were administered individually and the test administrator kept a record of the nonverbal responses made by the children as they progressed through the lesson. The verbal responses were audio-recorded, and later transcribed. There was also a list of additional specified prompts that the researcher supplied if the children did not respond immediately. The idea behind these is that these prompts help to move the task along and make it possible for us to get through the task.

To convey something of the flavor of the children's responses, some sample responses from children at various levels of proficiency follow. The first sample is from a third grader at a quite low level of English proficiency after three years in school:

(Q: Where do marine animals live?)

A: "In she house."
(Q: What is a mollusk?)
A: (Pointing at one of the shells) "This one?"
(Q: "Why do mollusks need shells?")
A: "Because he don't got some bone."
(Q: "Describe the starfish.")
A: "It um like some little little tiny rock."
(Q: "Why isn't the starfish a mollusk?")
A: "Because it not a star.")

The following are some sample responses from two somewhat more proficient, but as yet obviously imperfect speakers of English, also third graders:

(Q: "Can you tell me why it's called a starfish?")
A: "Because it, because it looks like a star."
(Q: "Can you describe the starfish?")
A: "It looks like a ti--a tiny rock and like sands too."
(Q: "Describe the other side of the starfish.")
A: "The other side looks like a, some tiny nails in it. Like that and threads, like threads too."
(Q: "Can you tell me why it isn't a mollusk.")
A: "Because it doesn't have shell. It only can swim but it isn't mol. It is a marine."

(Q: "Why is it called a starfish?")
A: "Because it look like a star."
(Q: "Describe the starfish.")
A: "It touch--ah--sometime it touches, a like a wall."
(RA: "A wall?")
A: "Yeah, a house a you could ah, ah, if you touch ah, somebody house you ah, you feel like that."
(RA: Ah, ah, how?)
A: "Like, like, a little rockses."
(Q: "Describe the other side.")
A: "Ah, the ah, the side of starfish has look like a corn."
(RA: "Like a cone?")
A: "Corn! Yeah, c-o-r-n.
(RA: "Oh, like a corn. Why do you say that?")
A: "Ah, the outside of the side, the shape of corn, five corns--N, ah, five little, ah, five ah, five corn over here, one is chopped off though. Look like ah, look, ah, banana inside. Like a banana. If you chew it, it will, it look like this."

Finally, some sample responses from another third grade student, this one who is almost fully proficient in English:

(Q: "Do you remember what a marine animal is?")
A: "Uh something that lives under the sea, and used to have animals in them, but not no more".
(Q: "What is the shell for?")
A: "For protecting the animal-- that live in 'em."
(Q: "What is a mollusk?")
A: "A mollusk is a --a marine animal --a marine animal that--that lives in a shell."
(Q: "Tell me why they need shells?")
A: "They need the shells to protect them from other animals-- that could eat them."
(Q: "What would happen to these little animals if they had no shell?")
A: "The other animals of the sea would eat 'em."

4.1.2. Scoring Procedures

In devising a set of procedures for analyzing and scoring the Shell Game (and Rock Game) test data, we decided to adopt a multiple analysis schema which would give us separate scores for different aspects of language proficiency. It was our belief that a single global score of the child's oral proficiency on the Shell Game would be misleading. For one thing, there is research evidence showing that comprehension and production may develop at somewhat different rates, and that in general, language learners may understand new forms and structures well before they can produce them. This suggested that we needed to examine these two aspects of language performance separately. Further, it seemed that there were a variety of ways to assess productive capability of learners based on samples of their speech. Our aim was to obtain as complete an assessment of our

subjects' language capabilities as we could derive from a multifacted examination of their performance in the test. We closely examined every aspect of their responses to instructions and questions (the language they produced in their verbal responses and the actions they performed in their non-verbal ones) to determine how well our subjects understood and could speak English.

4.1.2.1. Production

We eventually decided on production measures that took into account a number of dimensions: how grammatically well-formed (i.e., "correct") an individual's utterances were, how grammatically complex they were, and how informative an individual's responses were to the questions that were asked in the test (i.e., how much of the information requested in each question was actually provided in the response). Thus our scoring procedure consisted of three components: (1) Well-Formedness, (2) Grammatical Complexity, and (3) Informativeness. Scoring was done at the item level in each category. That is, the response to each of the items in the test that were included in our analyses were coded separately in each of the three categories according to the criteria listed below. Responses sometimes consisted of short phrases and sometimes of multiple structures; ratings were on the entire response, with the volubility of the response generally reflected in ratings of informativeness.

Well-Formedness. This category referred to the grammatical correctness of the structures used by the subject in producing responses to the test item. We were concerned here with

appropriateness of lexical choices and idiomaticity of expression as well as with the well-formedness of the grammatical constructions used. Two advanced graduate students in linguistics (both of them specialists in syntax and linguistic pragmatics) coded transcriptions of the children's responses (with each item judged separately) according to the following criteria:

0= No response, no attempt to answer the question.
1= Restricted or inappropriate use of words; serious grammatical errors resulting from omissions of forms or word order problems: e.g.,
  Q: What is a mollusk?
  A: What--dis what? Dis for? Dis what?
or,
  Q: Why do mollusks need shells?
  A: For dey b'oke it...for dey cou' touch it, and lookit. (=For they broke it...they could touch it, and look at it.)
2= Some grammatical errors, but less serious ones, involving circumlocutions and simplifications; disjointed and non-idiomatic responses: e.g.,
  Q: Can you describe the starfish?
  A: It touch, ah, sometime it touch like a wall...like a house ah, if you touch ah, somebody house you, ah, you feel like that. (="It feels like a (stucco) wall; if you touched (the stucco wall on) somebody's house, you (would) feel like that".
3= Nearly free of grammatical errors; minor flaws in expression, perhaps, resulting in somewhat disjointed and slightly non-idiomatic responses: e.g.,
  Q: What do you think would happen to these little animals if they had no shells?
  A: They--they will die, if they don't have bones. (="They would die, if they had no shells [because they have no bones"].)
4= Responses are nearly perfect in form and expression, although they might include restarts, etc.
  Q: Do you remember what a marine animal is?
  A: Uh something that lives under the sea, and used to have animals in them, but not no more. (="...and [the shells] used to have animals in them...")

To insure that the coders understood and were in agreement on the cri-

teria being used, we had each of them rating the tests of all of the subjects from several different classes. After discussing the responses on a few of the protocols together, the coders worked separately on the tests done of the subjects from three of the 17 classes in our study. Because no verbal responses were required for some of the test items only certain ones had to be coded. There were 24 such items in the Shell Game (and an equivalent number in the Rock): #s 9, 10, 15, 24, 28-34, 38, 39, 41-43, 46, 52, 54, 61-65. The degree of agreement on "well-formedness" for the three classes (31 cases) that were coded by each linguist was .88. This degree of agreement was found on total Shell Game well-formedness scores for individual students in three classes coded at the beginning, middle, and end of the coding period for the Shell Game. The later checks on interrater reliability were done on a few individuals drawn from three classes rather than on all of the students in those classes. The same procedure was followed in determining the reliability for the following two categories.

Grammatical Complexity. This relates to the structural complexity and variety of the structures produced in response to the elicitation items on the Shell Game. The concern here is both with the complexity of separate utterances, and with the the relational coherence of multiple structure responses. The coding scheme was as follows:

0= No response
1= Fragmentary responses--one or two word responses or phrasal responses where, given the way the question was framed, a more complex response was called for (e.g., Question: "Where are you going?"
Answer: "Store"
rather than "To the store")

2= Single, simple sentences.
3= Simple sentences conjoined by "and", or a series of simple sentences. Sentences containing complex verbal complements and those introduced by "because".
4= Responses involving a series of propositions with at least one subordinated logical relationship between them; relativized constructions.
5= More than one subordinated clause; cohesive ties between propositions marked explicitly; embedded constructions.

In the case of Grammatical Complexity, the reliability between the two coders on the Shell Game was .96.

Informativeness. This is an assessment of the amount of information actually provided by the student in responding to the question. The coding scheme was:

0= No response, or "I don't know"
1= Minimal response or not a full response to the question (This does not mean a full sentence is required, but it's less than one should be able to get away with, given the way the question was framed).
2= An adequate response given the way the question was framed--but no more than what is called for.
3= More than called for by the question as an adequate response; it meets the demands of the question, and adds perhaps a contrast, or offers another dimension.
4= An expanded response that goes well beyond the simple demands of the question; a multiple dimensional response with many details, or specific information.

In this case the reliability between the coders was .90.

How do these measures relate to each other and to other measures of oral language proficiency? We correlated each of these measures with each other and found a correlation for the Shell Game of .61 between Well-Formedness and Grammatical Complexity, .65 between Well-Formedness and Informativeness, and .81 between Grammatical Complexity and Informativeness. For the Rock Game the correlations were

Grammatical Complexity, .81 between Well-Formedness and Informativeness, and .96 between Grammatical Complexity and Informativeness.

We also correlated Shell Game measures with raters' judgments of oral language proficiency based on segments of a taped child interview in which the children described everyday events in their lives (how they had spent the previous day). In this case, we used an adaptation of the Foreign Service Institute proficiency scale for judging the proficiency of our subjects. These ratings were done by the same two linguists that did the coding of the Shell and Rock Game protocols. After listening to each speech sample, the two raters scored the speaker along a 5-point scale for fluency and pronunciation. Inter-rater agreement over all children was in the .90s for both measures.

The correlations between the measures of oral language proficiency derived from the Shell Game and the assessments of pronunciation and fluency based on the speech sample from the child interviews were very low (from -.11 to +.11). One possibility we faced was that one or both of the procedures was not giving us a good assessment of how proficient the children really were. A comparison of the two types of raw data we were using (that is, Shell and Rock tapes with the interview tapes) showed that the pictures we had gotten from the two procedures were reasonably accurate. The problem was that proficiency is not always reflected in fluency and pronunciation. Some language learners can produce speech that is very well-formed and quite complex, and yet not be particularly fluent nor good at English pronunciation. Others can say a lot and with great confidence or sound quite native-like, but make a lot of grammatical errors in their

speech. This would suggest that pronunciation and fluency are not at all good yardsticks for measuring language proficiency. And yet, it is obvious that quite frequently, teachers do form judgments about the linguistic proficiency of children based on how freely they speak, and on their pronunciation. These data data support the possibility of what Skuttnabb-Kangas called a whereby a child may be judged to be quite proficient in a language on the basis of oral fluency, but may not be very proficient at all on the aspects of oral language proficiency that are important for successful classroom functioning. What these data say is that language proficiency is not a global concept, that there are different kinds of language skills required in different situations and that even within a single situation, such as the classroom, oral language has to be examined in a number of different ways.

A final of set of correlations was run between the Shell and Rock game measures and CTBS scores taken in the Spring of 1981 (our study began in the fall of 1981) and in the Spring of 1982 (when our study concluded). The CTBS scores were based on three language subscales--spelling, mechanics, expression--and total score. Correlations between the initial CTBS scores and a combined score on the Shell game (the total z-score obtained by adding z-scores for Well-Formedness, Grammatical Complexity, and Informativeness) ranged from .26 to .41. The correlations for comprehension scores on the Shell game (as measured by the Weighted Comprehension score--see below) and CTBS measures ranged from .40 to .60. Correlations between the scores on the Spring 1982 CTBS test and a combined z-score on the Rock game (obtained in

the same manner) ranged from .12 to .40. Comprehension scores on the Rock game (again measured by the Weighted Comprehension score) and CTBS measures ranged from These correlations suggest that there is some overlap between our measures (especially comprehension measures) and what is measured by the CTBS, but that the overlap accounts for less than half of the variance, even on comprehension ratings. This can be explained by the fact that the CTBS requires reading skills, but our measures were essentially oral language measures (but not measures of fluency and pronunciation). Essentially, then, the Shell and Rock games measure something different from what tests of surface fluency measure and from what the CTBS measures.

4.1.2.2. Comprehension

We determined how well the children understood what was being said to them on the basis of how they responded, both verbally and nonverbally to the test items. This judgment was made by the interviewer; points were assigned to the child according to whether prompts were needed and according to whether the response showed full, partial, or no understanding. What were were after were appropriate responses rather than correct ones necessarily. For example, when asked how many sheets of papers were in the box of materials used in the test, a child, miscounting the papers, might have given "3" as the answer rather than the correct one which would have been "4". In our coding procedure, the child would have been given full credit for the answer since it indicates that he understood the question. The child need not have made a "correct"

response to have shown understanding of the question.

Initially, we had hoped to determine in an apriori manner what items would be more difficult for the children because of their structural and pragmatic properties. We developed an elaborate coding scheme for rating items in terms of these features. But the children did not reward these efforts by confirming our judgments of difficulty. At times, they had all kinds of problems with items we thought were easy. Even more exasperatingly, they frequently had no problems understanding the items we thought were very difficult. Consequently, our final analysis of comprehension ability was based on how difficult the items were empirically for the children.

Specifically, we determined, for our Chinese and Spanish samples, which items fell into five different levels of difficulty, beginning with the most difficult in Category 5 and ranging to the least difficult in Category 1. We then computed the percent of the items in each of the five categories that each child understood correctly. To have understood the item correctly, the child had to show full understanding in responding, without any prompts being supplied.

CHAPTER 5

MAJOR FINDINGS

In this chapter we discuss the principal findings of our analyses relating our independent variables to the development of oral language proficiency. First, we present pre- and posttest data from the Shell and the Rock games. Then, we look at the gain from pre- to posttest scores for the children in our sample. We then looked at patterns of change across our classes and attempt to relate these patterns of achievement to classroom characteristics. The principal analyses are discussed next, in which we relate the development of oral language comprehension and production skills to instructional practices and language use variables in the classroom. The chapter concludes with a discussion of the patterns of instructional language use which influenced language learning.

5.1. Oral Language Data

5.1.1. Pretest Data: Shell Game

Data from a small number of subjects on the Shell Game had to be disregarded because they failed to respond to any of the items or because of irregularities in testing. The eventual number of cases where the data for both the Shell Game and the Rock Game were appropriate for statistical analysis was 151. Table 5.1 lists the

Table 5.1

Production Scores by Class
and Language Group
on Pretest (Shell Game)

		Mean and Standard Deviation					
		Well-Formedness		Grammatical Complexity		Informativeness	
		Mean	S.D.	Mean	S.D.	Mean	S.D.
Grade 3: Chinese							
3C1	(n=10)	3.13	.24	2.35	.53	1.73	.43
3C2	(9)	3.14	.32	2.18	.40	1.72	.19
3C3	(8)	2.38	.58	1.36	.79	1.37	.55
3C4	(6)	3.14	.20	2.28	.54	1.92	.43
3C5	(11)	3.20	.31	2.49	.48	2.06	.35
3C6	(10)	3.33	.26	2.61	.50	2.05	.31
Grade 3 Hispanic							
3S1	(10)	2.99	.22	2.37	.41	1.72	[illegible]
3S2	(11)	3.02	.69	1.92	.81	1.59	.54
3S3	(5)	2.91	.56	1.47	.52	1.18	.40
3S4	(12)	3.12	.43	2.11	.62	1.73	.42
3S5	(8)	3.08	.46	2.41	.50	1.86	.39
3S6	(3)	3.40	.35	2.00	.38	1.64	.23
3S7	(7)	3.31	.35	2.18	.52	1.69	.29
Grade 5 Chinese							
5C1	(11)	3.14	.42	2.31	.26	1.94	.25
5C2	(8)	3.25	.51	2.34	.64	2.14	.59
Grade 5 Hispanic							
5S1	(9)	3.28	.50	2.01	.54	1.76	.37
5S2	(11)	3.25	.20	2.73	.53	2.08	.36

mean and standard deviation by class and language group for scores for Well-Formedness, Grammatical Complexity, and Informativeness on the Shell Game. Recall that Well-Formedness is scored on a scale of 0 to 4, as in Informativeness, but that Grammatical Complexity is scored on a scale of 0 to 5. Because of these differences in scoring, we converted all scores to z scores, calculated separately for 3rd and 5th grade data. These z scores for the pretest (the Shell Game) are given in Table 5.2. The table also lists the total z score, obtained by summing the z scores for all three scoring categories.

It can be seen from the table that the classes that did best on the Shell Game were 3C6, 3C5 and 3S5 (based on Total score). The poorest classes were 3C3, 3S3 and 5S1.

Table 5.3 shows the comprehension data for our subjects by class and language group. These data are in the form of percentages of correct responses to items of varying degrees of difficulty (Category V is the most difficult and Category I is the least). The table also shows a Weighted Comprehension Score obtained by the formula:

$$5\ (\%\ V) + 4\ (\%\ IV) + 3\ (\%\ III) + 2\ (\%\ II) + (\%\ I)$$

On the basis of the Weighted Comprehension Score, the highest classes at the beginning of the year were 3C6, 3C4, and all 5th grade classes (although 5C1 was somewhat lower than the others). The lowest classes were 3S3, 3C2 and 3C3.

Table 5.2

Z-Scores for Production Items
by Class and Language Group
on Pretest (Shell Game)

Mean and Standard Deviation

	Well-Formedness		Grammatical Complexity		Informativeness		Total
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean
Grade 3: Chinese							
3C1	.13	.56	.17	.82	-.20	.93	.10
3C2	.15	.74	-.08	.62	-.21	.44	-.14
3C3	-1.61	1.34	-1.36	1.22	-1.04	1.28	-4.01
3C4	.15	.46	.07	.84	.26	.99	.48
3C5	.29	.72	.39	.75	.57	.81	1.25
3C6	.58	.59	.59	.78	.55	.72	1.72
Grade 3: Hispanic							
3S1	-.22	.48	.41	.66	.09	.72	.28
3S2	-.15	1.51	-.31	1.32	.03	1.31	-.43
3S3	-.40	1.19	-1.05	.85	-1.21	.97	-2.66
3S4	.05	.93	.00	1.22	.11	1.01	.16
3S5	-.03	.99	.48	.81	.45	.96	.90
3S6	.67	.76	-.18	.63	-.10	.56	.39
3S7	.46	.77	.11	.85	.02	.70	.59
Grade 5: Chinese							
5C1	-.09	.84	-.03	.57	-.20	.59	-.32
5C2	.13	1.02	.04	1.45	.27	1.39	.44
Grade 5: Hispanic							
5S1	.05	1.41	-.62	.85	-.45	.95	-1.02
5S2	-.04	.56	.51	.83	.37	.93	.84

Table 5.3

Comprehension Data:
Percent Correct Responses
to Items of Varying Degrees of Difficulty
by Class and Language Group
on Pretest (Shell Game)

Mean and Standard Deviation

Category:	V		VI		III		II		I		Weighted Comprehension Score	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Grade 3 Chinese												
3C1	.36	.22	.61	.23	.71	.17	.79	.16	.90	.13	8.85	2.50
3C2	.21	.18	.28	.14	.56	.22	.63	.23	.81	.18	5.91	2.47
3C3	.25	.17	.26	.27	.52	.29	.65	.28	.88	.12	6.02	3.16
3C4	.43	.21	.52	.14	.74	.18	.91	.08	.91	.11	9.23	2.24
3C5	.27	.21	.33	.18	.66	.20	.76	.14	.90	.09	7.10	2.32
3C6	.45	.18	.75	.15	.75	.16	.85	.10	.95	.07	10.16	1.66
Grade 3 Hispanic												
3S1	.35	.20	.49	.24	.71	.17	.84	.10	.92	.11	8.42	2.40
3S2	.36	.31	.48	.25	.61	.28	.81	.18	.93	.07	8.12	3.41
3S3	.12	.11	.19	.15	.43	.18	.53	.25	.78	.17	4.47	1.86
3S4	.30	.20	.44	.22	.69	.23	.76	.14	.95	.06	7.83	2.65
3S5	.26	.14	.37	.29	.63	.12	.79	.11	.92	.05	7.19	2.12
3S6	.20	.17	.47	.27	.67	.27	.78	.14	.91	.08	7.33	2.94
3S7	.24	.08	.39	.20	.64	.14	.80	.12	.91	.11	7.21	1.65
Grade 5 Chinese												
5C1	.40	.26	.56	.21	.67	.16	.82	.12	.92	.07	8.80	2.52
5C2	.69	.27	.81	.29	.87	.28	.95	.09	.93	.12	12.12	3.48
Grade 5 Hispanic												
5S1	.48	.19	.62	.25	.85	.15	.92	.10	.93	.05	10.20	2.22
5S2	.61	.20	.72	.16	.73	.20	.77	.12	.94	.08	10.59	2.20

A comparison of the relative rankings of third grade classes on comprehension and production shows that two of the three third grade classes that were highest in production, ranked relatively low in comprehension. One of them (3C5) just missed being on the list of the lowest ranked classes in comprehension. Only 1 class (3C6), the highest of the 13 third grade classes overall, was equally high in both comprehension and production:

Class	Rank in Prod.	Rank in Comp.
3C1	(9)	3
3C4	(5)	2
3C5	2	(10)
3C6	1	1
3S5	3	(9)

Of the four classes that were the lowest of the thirteen third grade classes in beginning comprehension and production, three were ranked almost equally low by both measures of proficiency:

Class	Rank in Prod.	Rank in Comp.
3C2	(10)	12
3C3	13	11
3S2	11	(5)
3S3	12	13

A comparison of these classes listed indicates that four of the five highest classes were Chinese and one was Hispanic, while the four lowest classes were equally divided between Hispanic and Chinese. Two of the five highest classes were bilingual and the remaining three, English monolingual, while all four of the lowest ranked classes were bilingual. One might be tempted to conclude from the foregoing that

the Chinese classes were better in acquiring English than the Hispanic, and the English monolingual classes were doing a better job than the bilingual ones in helping the LEP students pick up English. That, however, would be an oversimplification of the differences between the classes at the top and the bottom.

The greater exposure that the students in the monolingual classes have had to the use of English in instruction apparently does give them a slight edge over the students in bilingual classes, at least in picking up English. It should be noted, however, that the differences between classes were not great, and thus the academic benefits of receiving bilingual instruction may nevertheless outweigh the advantage that monolingually instructed students enjoy by picking up English just a little bit faster. Actually, the differences in beginning English proficiency that we found between bilingual and monolingual classes may be associated more with their instructional and situational characteristics than with the kind of program they happened to be. The English monolingual classes, as a rule, had smaller concentrations of LEP students in them, and this generally meant that there were more opportunities for the ones that were there to interact with English speaking classmates. We shall see that this was a variable that had a major effect on the development of productive aspects of proficiency during the year of the study.

Even more critically, a number of instructional variables may have been involved in determining which classes were high to begin with, and which were low. We cannot, of course, say much about them with regard to the levels of English proficiency our students had as

the study began since we were not able to observe the classroom programs our subjects had experienced prior to the year we studied them. We will, however, do so with respect to the changes we found taking place in their levels of proficiency during the study year, and there is no reason to believe that the instructional variables that influenced language development during that year would be greatly different than those that influenced development in previous years. But while we can say nothing very specific about the instructional treatments that might account for the differences we found in beginning levels of English proficiency, there are some observations we can make about the prior educational experience of our subjects related to situational differences that could be seen between the highest and the lowest classes.

Let us consider the classes that began the study year with the highest levels of English proficiency. What were they like, as a group, and how do they differ from the classes that began with the lowest proficiency? Some of the differences between them may be attributable to situational differences found in the school and community settings of these classes. Looking at the highest classes, we find that three of the five were in the same school (3C4, 3C5, and 3C6). There was one other class from this school in the study, this one a fifth grade (5C2), and it too would have been on the list had a single ranking of third and fifth grade classes been possible. (It was not done since the z-scores on which the rankings were based were computed separately for the two grade levels.) Only one of the four classes we had in this school was bilingual (3C4); it the only bil-

ingual third grade in the school. There was only one other third grade class (another all-English one) in the school, but it was not included in study because there were fewer students in it who met our subject selection criteria than in the others three classes. There was a bilingual fifth grade class at the school, but that teacher was suffering from research fatigue (having participated in another study the previous year) and did not feel that she handle another year of microscopic examination, nor of researchers constantly underfoot. Had we recruited that class as well, it no doubt would have been on our list alongside the all-English fifth grade class we did get. It mattered less that these classes were monolingual or bilingual than that they were classes in this school, we think.

The school itself was one that had a very large concentration of Asian students, most of them Chinese. It would be difficult to know for certain what factors contributed most to the English language performance of the students in this school, but certain characteristics of the school seem to be important ones. The teachers in the school were, as a group, very academically oriented. The school was considered by parents and teachers alike to be a desirable one: there were rumors that some of the students at the school lived outside its attendance area but were there because their parents were using "phony" home addresses; teachers in other schools in the district were said to be willing to accept changes in grade level assignments in exchange for transfers to this school. The school was regarded as "easy duty" for teachers: it provided teachers with a hassle-free work

environment where they could really teach successfully. The secret to their success, of course, was the children. Most of them were eager and hard-working; they plugged away at their assignments, and generally did well in school despite serious language problems which sometimes prevented these students from understanding very much of what they were "learning".

It didn't seem to bother the children when they did not understand things as long as they were "busy working" at them, and completing their assignments. Our observations of these children gave us some fascinating insights into the value of perseverance and practice. Some of the non-English speakers, for example, worked for hours each day on exercises that could have had little meaning for them. They sometimes had little idea of the purpose of these exercises even, but that did not seem to affect their willingness to spend time working on them, nor on the amount of attention they gave to such tasks. It was as if they understood that by hardwork and perseverance, they would eventually succeed, no matter how impossibly difficult things seem at first. In this, they generally reflected their parents attitudes on work and education. While the families served by this inner-city school were largely low income, they were oriented to school success, and the parents were extremely supportive of the school's programs and of their children's teachers. Whatever the teachers did or asked was right, so far as the parents were concerned. They did not, as a rule, serve as volunteers in the classrooms; few of them had the education or the English language skills that might have given them the confidence to think about that.

There was throughout this school, a heavy emphasis on English. It had a large pull-out ESL program which gave students needing such instruction a fifty minute period of ESL four times each week. The teachers provided additional language instruction in many of the classes we visited in the school. Some of this was given as language arts instruction, and some in connection with reading. The teachers in the bilingual classes (the one we studied, and the ones we visited at other grade levels) generally placed as great an emphasis on the development of English skills as did the teachers in the all-English classes we studied. The only way in which these classes differed from the all-English ones was that Chinese reading and writing were taught in addition to everything else in the bilingual classes. Despite this, the school staff was quite divided on the question of bilingual education; those who opposed it tended to voice their objections to bilingual instruction on the grounds that the teaching of L1 literacy hinders the development of English skills. There was no evidence whatsoever that supported that argument, at least at this school. The students in the bilingual classes performed just as well as the students in the all-English classes did, judging from the CTBS scores shown to us by the district. Interestingly, many of the students in the bilingual and the all-English classes alike were attending a Chinese school each day after school, and they were being taught to read and write Chinese there. The students in the all-English classes were not missing out on Chinese literacy by being where they were, just as the students were not missing out on English in the least by being in bilingual classes.

The situation for the remaining Chinese class was much the same as the one described for the other three. It was in a different school and district, but the situation was quite similar to that at the other. Not only was the school environment similar to that of the school housing the other three Chinese classes, the instructional experience for this class had been much the same as for the others. This school was much more of a bilingual school than the other; instead of just one bilingual class at each grade level as in the other, there were three or four at this school. But here as well, English was the predominant language of instruction, and it was heavily promoted by all of the teaching staff. While we did note differences among the teachers we observed at this school, English was by far the language that was the most frequently used by teachers and students alike.

It seems clear to us in comparing the highest and the lowest classes that school setting and family variables such as these can be major influences on the learning of English by LEP students. But these situational factors are just a few of the variables that influence the development of second language skills. The kind of skills children acquire, and the applicability of those skills to schoolwork depend very much on the kind of instructional experiences that led to their acquisition in the first place. The unevenness of development that we see when the ratings in production are compared to those in comprehension for four of the five highest classes suggests some interesting possibilities in the ways in which the prior instructional experiences of these classes differed in specifics. Two of the 4 (3C1

and 3C4) are ranked relatively higher in comprehension than in production; the other two (3C5 and 3S5) are lower in comprehension than production. We have reason to believe that patterns of uneven development as we see here are directly related to the structure of the instructional programs that children have been in, and the nature of the instructional practices that their teachers engaged in. One of the more intriguing findings in looking at the relative rankings of our classes in beginning of the year and end of the year levels of proficiency was that the situations for these two pairs of classes became reversed over the course of the year during which we observed them. This reversal, we believe, is directly related to the kinds of instructional approaches taken by the teachers in those classes, but that we will save our discussion of what those were until we discuss the changes that took place over the year in language proficiency (see Sections 4.4).

Let us look for now at the classes that ranked lowest in initial oral language proficiency, since they provide an interesting contrast to the highest classes. It was noted earlier that all of the classes that were lowest in beginning language proficiency were bilingual ones. Three of them were poor both in production and in comprehension. One of them (3S3) was a Hispanic class, and the other two (3C2 and 3C3) were Chinese. The remaining class (3S2), a Hispanic bilingual one, was low in production, but quite high in comprehension. What were these classes like as a group?

The two Chinese classes were alike in that they each had a larger number of newly arrived NES students than any of the classes in the

Chinese sample (38.5% of the students in 3C2, and 35.7% in 3C3 were either NES or had had a year or less of English by the beginning of the study year). They were at different schools and in different districts. Both schools were located at the fringes of ghetto areas. The children in 3C3 were bussed from the city's Chinatown area to the school which was in a neighborhood consisting largely of low-income public housing. The children who lived in the neighborhood were mostly black, but the school itself was more or less integrated through the busing program which brought Hispanic and Asian children to it from other districts of the city. The school that housed 3C2 had a very similar ethnic composition.

The 3S3 Hispanic class had an extremely high proportion of Spanish L1 speakers (87.7% were Hispanic background, and all but a few of these children were predominantly Spanish-speaking, and 8.1% English monolingual Caucasians). The other Hispanic class was in the same urban school as one of the Cantonese classes just discussed, 3C2. 3C2 was the one "Chinese" bilingual class in the school, while 3S3 was the lone Hispanic bilingual third grade class there. Like the Chinese class, the Hispanic one was ethnically and linguistically mixed. It had, in fact, almost the same proportion of Hispanic and Black students (65.2% Hispanic, 30.4% Black) as the Chinese class had of Asian and Black students (69.2% and 26.9%).

What we have in the group of classes that were lowest in English proficiency at the beginning of the study, then, are two classes with very high concentrations of the language group served by the bilingual program, and two with a somewhat more ethnically and linguistically

mixed class composition. These apparent differences among the four classes might lead one to suppose that there was no one common situational factor that might account for why they were all so low in beginning English proficiency, or to suggest that since the one characteristic shared by them was that all four were "bilingual" classes, it was responsible for them being where they were. In fact, there was at least one other characteristic shared by these four classes, but it was not one that would have been detected had we not conducted intensive observations of the interactional patterns in all of our classrooms and in the schools in which they were located. The LEP children in all four situations were quite isolated from English speakers, despite the fact that in the case of three of them, a quarter or more of the students in the class were English monolinguals. There was, in the two urban schools, a fairly good ethnic and linguistic mix in the student-body as a whole, if not in the classes themselves. But in each case, the ethnic groups tended not to intermix, and indeed, not to have much contact with one another, even in class. 3C2 (the Chinese class that was bussed across town each day to school) was entirely isolated from the other children in the school. The Chinese children rarely mingled with the other children in the school yard. They were real "outsiders" there, linguistically, socially and culturally. The language differences would have made interaction difficult at best between these groups, but there were also enormous cultural differences that precluded even superficial interactions that might have led to the elimination of these linguistic differences.

The situation we observed at this school was of children who had no way of breaking the social and linguistic barriers that existed between them and the other children in the school. The black children were lively, exuberant, and completely at home in this school which was right in their neighborhood. The schoolyard was their turf: they played there before school, after school and no doubt on weekends as well. In this situation, the Chinese children were anything but lively and exuberant: they were strangers in foreign territory, and they did not seem to know how to relate to the other children in the school. There was no time before or after school for the groups to get together informally since the bus children arrived just in time for class in the morning, and they got on the bus immediately after they were dismissed each afternoon for the return ride across town to their own neighborhoods. At recess and after lunch each day, the Chinese children tended to bunch together in tight little knots right near the entrance to the building, so they could get back into their classrooms as soon as the bell signalled the end of the recess or lunch period. Their only exposure to English, as far as we could tell, came from teachers, and while their teachers emphasized the development of English, and they worked hard at helping the students acquire and use the language, their efforts met with limited success because the social situation in the school did not provide the students with much motivational support for learning or using it. This last was true also for the Hispanic children at the rural school. Most of the children there spoke Spanish, and while the teachers promoted English and it was the predominant language of instruction even in the bilingual classrooms, the children tended to use Spanish more frequently than

English.

In the other two classes, we observed essentially the same social and linguistic segregation of the LEP students from English speaking peers, this despite the fact that a quarter of the children in each class were English monolinguals. The children tended to isolate themselves socially and linguistically, even when their teachers took measures such as seating English speakers together with LEP students to try to break down the barriers between them. They would sit side by side peacefully enough, but rarely did they talk to one another, nor would they go out to recess together. At recess, the children would head for their own groups, and engage in the kind of activities they liked best with friends who were just like them, rather than to attempt to get to know the children who were different. Linguistic and social isolation of LEP students, whether self-imposed or not, is not conducive to good language learning, it appears.

5.1.2. Posttest Data: Rock Game

Table 5.4 lists the mean and standard deviation by class and language group for scores for Well-Formedness, Grammatical Complexity, and Informativeness on the posttest measure, the Rock Game. Because of differences in the scales used in scoring the three production measures, we again converted all scores to z scores, again separating 3rd and 5th grade data. These z scores for the Rock Game are given in Table 5.5. The table also lists the total z score, obtained by summing the z scores for all three scoring categories.

Table 5.4

Production Scores by Class
and Language Group
on Posttest (Rock Game)

	Mean and Standard Deviation					
	Well-Formedness		Grammatical Complexity		Informativeness	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Grade 3: Chinese						
3C1	3.14	.35	2.44	.36	2.07	.33
3C2	3.00	.36	2.17	.20	1.76	.40
3C3	2.69	.75	1.73	.82	1.25	.60
3C4	3.17	.20	2.49	.46	2.06	.32
3C5	3.19	.29	2.46	.43	2.09	.28
3C6	3.11	.26	2.56	.40	2.17	.31
Grade 3 Hispanic						
3S1						
3S2						
3S3						
3S4	3.11	.26	2.51	.46	1.86	.41
3S5	2.91	.42	2.41	.54	1.99	.54
3S6	3.10	.15	1.90	.05	1.60	.24
3S7	3.39	.30	2.02	.65	1.75	.39
Grade 5 Chinese						
5C1	3.18	.19	2.23	.30	1.97	.21
5C2	3.29	.34	2.34	.51	2.16	.35
Grade 5 Hispanic						
5S1	3.42	.29	2.24	.53	1.88	.37
5S2	3.30	.19	2.55	.44	2.14	.30

Table 5.5

Z-Scores for Production Items
by Class and Language Group
on Posttest (Rock Game)

Mean and Standard Deviation

	Well-Formedness		Grammatical Complexity		Informativeness		Total
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Grade 3: Chinese							
3C1	.15	.66	.28	.69	.32	.69	.75
3C2	-.12	.68	-.24	.38	-.33	.85	-.69
3C3	-.69	1.44	-1.07	1.57	-1.40	1.38	-3.16
3C4	.20	.39	.38	.87	.30	.66	.88
3C5	.25	.54	.31	.81	.37	.58	.93
3C6	.10	.53	.50	.76	.53	.66	1.13
Grade 3: Hispanic							
3S1	.19	.52	.33	.49	.51	.75	1.03
3S2	-.48	1.78	-.59	1.35	-.44	1.29	-1.53
3S3	-.04	.98	-.57	.88	-.93	.67	-1.54
3S4	.08	.54	.53	.79	.19	.83	.80
3S5	-.34	.86	.36	.93	.46	1.11	.48
3S6	.05	.31	-.37	.08	-.35	.50	-.67
3S7	.66	.62	-.31	1.12	-.04	.81	.32
Grade 5: Chinese							
5C1	-.19	.74	-.17	.76	-.28	.74	-.64
5C2	.26	1.29	.17	1.30	.39	1.22	.82
Grade 5: Hispanic							
5S1	.27	1.22	-.35	1.07	-.41	1.07	-.49
5S2	-.22	.77	.29	.89	.33	.85	.40

Table 5.6 shows the comprehension data for our subjects by class and language group. Again the data are in the form of percentages of correct responses to items of varying degrees of difficulty (Category V is the most difficult and Category I is the least). The table also shows a Weighted Comprehension Score obtained by the formula:

$$5\ (\%\ V) + 4\ (\%\ IV) + 3\ (\%\ III) + 2\ (\%\ II) + (\%\ I)$$

5.2. Oral Language Gains Related to Instructional Variables

The next step in our analysis was to determine what relationship, if any, existed between our dependent variables, the measures of oral language gain in production and comprehension, and our independent variables, the various instructional features that we had coded. It should be recalled at this point that there were two general types of instructional features--those that we called Instructional Language variables and those that we called Instructional Practice variables.

5.2.1. Correlational Data

The correlational data were disappointing. We failed to find strong relationships between our dependent variables and either the sets of Instructional Language or the Instructional Practice variables. In fact, of the 11 combined variables related to Instructional Language Use, only two showed some significant correlations with our dependent measures. Of the 14 clusters of Instructional Practice

Table 5.6

Comprehension Data:
Percent Correct Responses
to Items of Varying Degrees of Difficulty
by Class and Language Group
on Posttest (Rock Game)

Mean and Standard Deviation

Category:	V		VI		III		II		I		Weighted Comprehension Score	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Grade 3 Chinese												
3C1	.10	.12	.32	.19	.58	.22	.66	.26	.93	.05	5.90	1.54
3C2	.10	.10	.38	.22	.63	.28	.66	.38	.92	.13	6.11	2.00
3C3	.04	.06	.19	.22	.40	.24	.45	.37	.67	.41	3.73	2.37
3C4	.02	.05	.35	.15	.60	.19	.71	.15	.93	.08	5.64	1.46
3C5	.06	.10	.43	.22	.58	.21	.64	.35	.99	.03	6.01	1.70
3C6	.06	.11	.59	.22	.55	.32	.79	.29	.97	.05	6.87	1.61
Grade 3 Hispanic												
3S1	.05	.07	.36	.29	.63	.17	.68	.26	.99	.04	5.94	1.79
3S2	.03	.08	.34	.28	.62	.30	.84	.11	.99	.04	6.06	2.30
3S3	.00	.00	.07	.09	.37	.19	.56	.38	.93	.16	3.44	1.19
3S4	.05	.10	.30	.29	.58	.19	.72	.25	.92	.08	5.56	2.09
3S5	.02	.05	.46	.31	.70	.23	.65	.40	.96	.05	7.16	2.12
3S6	.00	.00	.14	.07	.52	.11	.71	.08	.83	.11	4.39	.60
3S7	.02	.05	.25	.14	.51	.26	.63	.30	.97	.03	4.87	1.47
Grade 5 Chinese												
5C1	.08	.07	.40	.29	.76	.19	.45	.45	.99	.02	6.16	1.53
5C2	.11	.14	.54	.33	.69	.19	.62	.39	.98	.03	7.02	1.70
Grade 5 Hispanic												
5S1	.01	.04	.44	.28	.70	.17	.45	.44	1.00	.00	5.85	1.77
5S2	.07	.12	.51	.16	.69	.12	.60	.39	.99	.02	6.64	1.08

variables, none correlated significantly with any of our dependent measures of language gain.

The two variables that did show a relationship to our dependent variables were "Built in Interaction Opportunities" (e.g., opportunities for peer teaching or group work) and "Practice in English with Peers" (e.g., the extent to which the LEP students actually did interact with English speaking classmates). The first of these variables correlated significantly with all four measures of gain in language production:

.67 with Gain in Well-Formedness
.68 with Gain in Grammatical Complexity
.66 with Gain in Informativeness
and .82 with Total Gain Score

Each of these correlations was significant beyond the .01 level. However, this independent variable did not correlate significantly with any of our measures of comprehension gain.

Similarly, "Practice in English with Peers" correlated significantly with all four measures of gain in language production:

.69 with Gain in Well-Formedness
.66 with Gain in Grammatical Complexity
.75 with Gain in Informativeness
and .80 with Total Gain Score

Each of these correlations was significant beyond the .01 level. Again, this variable showed no relationship to our measure of gain in comprehension.

These findings suggest that the opportunity to interact with peers in English and actual interaction are strong predictors of gains in productive ability, although such opportunities and actual interaction did not seem to relate to gains in comprehension.

It occurred to us that perhaps our dependent measures of production were masking significant findings. Specifically, we wondered if some subjects' scores were inflated by their doing well on easy items. We therefore looked only at more difficult items and recoded for each subjects' score for Well-Formedness, Grammatical Complexity, and Informativeness using the 12 most difficult items on the Shell Game and the 15 most difficult items on the Rock Game. By most difficult in this context we mean those items that must be answered by more than a few words--e.g., items that required children to describe properties of items or to clarify the meaning of terms or to compare features of items with each other. It turned out, however, that the correlations between the total test (all items) and the score on the most difficult items was over .90 for each of the three production measures for both Shell and Rock Game. This attempt to make sense of our data led nowhere.

At this point, the paucity of significant correlations between our independent and dependent variables was discouraging. It turned out, however, that the relationship between our measures was more complex (and more interesting) than we had anticipated. This became evident as we carried out more detailed analyses of the data.

5.2.2. Differences between Groups of Children

The correlational analyses were based on the 17 classrooms in our sample. Because we were looking at the ratings we had made for teachers in the various classrooms, we were forced to use the mean scores on the dependent variables in the correlational analyses. This was a wasteful use of our data. We began to think of ways to use the individual scores of all of our subjects.

The first attempt in this direction involved categorizing our subjects into those in classes high on a given variable and those in classes low on that variable. For example, we compared children in those classes where teachers provided good input for language learning with those in classes where teachers' input was not as good. The statistical analysis was carried out via a t-test with the various comprehension and production measures as the dependent variables. The same procedure was carried out for other independent variables.

It soon became apparent that our findings using the t-tests were mirroring the findings we had obtained via correlational procedures. By and large, there were no significant differences between groups. Where there were differences, these tended to be the same as we had found in the correlational analyses. We began to wonder if our independent variables were not interacting in a complex way with other variables.

Was it possible, we asked, that children who have poorer language proficiency in English at the beginning of the year require different teaching strategies than those who begin with more skills in English?

Perhaps some of the variables we were looking out--good teacher input, feedback, teaching that focused on structural aspects of language, etc--were more important for students with poorer initial proficiency. Perhaps some teaching practices affected these children positively, whereas other variables affected children with greater initial proficiency. If so, we would have an explanation for why many of the variables we thought were important in second-language learning were not significant in our correlational analyses. Put simply, certain teaching practices may have affected some students one way and other students another way, with the result that nothing was showing up in our analyses.

What we began to consider, then, were interaction effects--specifically, Aptitude by Treatment interactions. The appropriate statistical design was a 2 x 2 Analysis of Variance. Because we had non-categorical data on our two independent variables, we did not use the traditional 2 x 2 factorial approach, but rather a regression analysis.

5.3. Summary Variables

We began by breaking down our independent variables somewhat. Because we had only 17 classrooms and 14 Instructional Practice variables and 11 Language Use variables, a factor analysis was not appropriate. We decided instead to group our variables logically and to determine their degree of association by means of Cronbach's alpha. After some experimentation, we came up with four summary factors:

QUALITY OF TEACHING: The sum of the z-scores for the following Classroom variables:

Good Teaching
Peer Interaction on Schoolwork
Variety of Teaching Models
Structural Aspects of Language Taught
Individualized Help
Informative Help
Responses Required and Modeled
Opportunities for Oral Participation

QUALITY OF LEARNING ENVIRONMENT: The sum of the z-scores for the following Instructional Practice variables:

Low Noise Level
Low Teacher Distractability
Learning Centered Behavior Promoted

QUALITY OF INSTRUCTIONAL LANGUAGE: The sum of the z-scores for the following Instructional Language variables:

Good Input from Teacher
Appropriately Adjusted Content
Structural Support for Input
Useful Feedback Provided by Teachers
Practice in Using English in Lessons
Total Practice in English

INTERACTIONAL OPPORTUNITIES: The sum of the z-scores for the following Language Use variables:

Interaction Opportunities Built in
Practice in English with Peers

The value of Cronbach's alpha for these summary values was:

QUALITY OF TEACHING	.92
QUALITY OF LEARNING ENVIRONMENT	.87
QUALITY OF INSTRUCTIONAL LANGUAGE	.94
INTERACTIONAL OPPORTUNITIES	.84

5.4 The Effect of Initial Proficiency Level and Cultural

Background

We computed a number of regression analyses to test for interaction effects between these summary variables and level of initial ability. For production dependent variables we used the Total z-score for Shell Game items as the measure of level of initial ability. For comprehension dependent variables we used the Weighted Comprehension Score for the Shell Game. We first entered into the regression analysis this measure of initial ability, then the score of the child's classroom on the summary variable, and then their interaction.

Table 5.7 shows the variables on which we found significant interaction effects. Of our dependent measures, only the difference between comprehension scores on Shell V and Rock IV categories was not significant. All other measures showed large interaction effects, suggesting that level of initial ability was indeed interacting with our summary variables.

5.4.1. Production Dependent Variables

Analysis of the interactions revealed a fairly complex picture. If we look at our production dependent variables first, we find that the effects for INTERACTIONAL OPPORTUNITIES was quite consistent with what we would expect from the correlational data. Because this summary variable was composed of two variables ("Interaction Opportunities Built in" and "Practice in English with Peers") that correlated positively with gains on our oral production dependent variables, we

Table 5.7

Significant Interaction Effects
from Regression Analyses
for Summary Variables

(Initial Ability x Summary Variable)

	Production				Comprehension		
Variable	W-F	G-C	Info.	Total	Diff 5-4	Diff 4-3	WT
QUALITY OF TEACHING	**	**	*	**	--	**	**
QUALITY OF LEARNING ENVIRONMENT	**	**	*	**	marg.	**	**
QUALITY OF INSTRUCTIONAL LANGUAGE	**	**	marg.	**	--	**	**
INTERACTION OPPORTUNITIES	**	**	**	**	marg.	**	**

marg. = $p < .10 > .05$

* = $p < .05$

** = $p < .01$

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were not surprised to find that children performed better on these measures of gain when they were in classes that were rated high on this summary variable. What was more interesting, however, was the interaction effect. What the data showed was that the effects of INTERACTIONAL OPPORTUNITIES was greatest for children who were poorest in initial ability.

To show the relationship between initial level of ability and the summary variable, we divided our subjects into quartiles on the basis of their initial level of ability (in this case the Total z-score for Shell Game items). We then divided the subjects into those who were in classes scoring high on the summary variable and those in classes rated low. The result is a 4 x 2 table. The example for INTERACTIONAL OPPORTUNITIES for the Total z-score gain dependent variable (obtained by adding the z-score gains for Well-Formedness, Grammatical Complexity, and Informativeness): There are roughly 20 subjects per cell in the above table.

	INTERACTIONAL OPPORTUNITIES	
	High	Low
LEVEL INITIAL ABILITY		
Top Quartile	-.55	-1.30
2nd Quartile	.31	-.16
3rd Quartile	.26	.02
Lowest Quartile	1.46	-.42

It can be seen that the subjects who are lowest in initial ability show the greatest gains overall (presumably because they have the greatest potential for gain and because subjects in the top quartile have a tendency to regress to the mean). What surprised us, however, was that the difference as a result of being in classes high or low on INTERACTION OPPORTUNITIES was greatest in the lowest quartile. That is, the children who start off poorest gain the most from having the opportunity to and actually interacting in English with peers.

When we looked at our other summary variables, however, we found that a quite different pattern was emerging. Again, differences between children in classes scoring high and low on the variables was greatest for the children lowest in initial ability. But the results were in the opposite direction to what we expected. That is, for our QUALITY OF TEACHING, QUALITY OF LEARNING ENVIRONMENT, and QUALITY OF INSTRUCTIONAL LANGUAGE variables children in the lowest quartile performed worse on the gain variables, by and large, when their classes were rated high on these summary variables.

We were puzzled by these findings. One possibility was that those classes that scored high in INTERACTIONAL OPPORTUNITIES scored low on the other variables. Indeed, we ran the intercorrelations between the summary variables and found that INTERACTIONAL OPPORTUNITIES correlated negatively with QUALITY OF LEARNING ENVIRONMENT and not at all with the other two summary variables. QUALITY OF LEARNING ENVIRONMENT, QUALITY OF TEACHING, and LANGUAGE QUALITY all correlated significantly with each other. Thus it appeared that if there is a great deal of opportunity for children to interact in the class, there

might be less likelihood of teachers spending time on structured aspects of language teaching. Children may learn to speak English best in those classes where they have opportunities to interact and not in those classes where teachers spend more time teaching the structural aspects of the language.

We began to wonder if there might be a difference between our Chinese and our Hispanic students in this respect. To determine if this was the case, we broke up our data further, dividing our groups on the basis of ethnicity as well. When we did this, we found that Hispanic children who were in the lowest quartile showed greater gains than their Chinese counterparts when the class was rated high in INTERACTIONAL OPPORTUNITIES: These data are for Total z-score gains for production and the cell size is roughly 10.

Furthermore, we found that for the QUALITY OF LEARNING ENVIRONMENT variable, Chinese subjects in the lowest quartile performed better the higher the class rating, whereas for Hispanic subjects the opposite was the case. The data for Total z-score gains for production are as follows:

On the QUALITY OF INSTRUCTIONAL LANGUAGE and QUALITY OF TEACHING variables there were relatively small differences among subjects in the lowest quartile for Chinese subjects, but large differences for Hispanic children. All subjects, but especially our Chinese children, in the intermediate range of initial ability seemed to show greater gains when classes were rated high on these summary variables (as they did with the QUALITY OF LEARNING ENVIRONMENT variable).

INTERACTIONAL OPPORTUNITIES

(Chinese Children)

LEVEL INITIAL ABILITY	High	Low
Top Quartile	-.82	-1.04
2nd Quartile	.75	-.30
3rd Quartile	- .23	.16
Lowest Quartile	1.19	-.22

(Hispanic Children)

LEVEL INITIAL ABILITY	High	Low
Top Quartile	-.17	-1.46
2nd Quartile	.04	.02
3rd Quartile	.69	- .14
Lowest Quartile	1.65	-.55

QUALITY OF LEARNING ENVIRONMENT

(Chinese Children)

LEVEL INITIAL ABILITY	High	Low
Top Quartile	-.99	-.82
2nd Quartile	.26	-.21
3rd Quartile	.29	-.41
Lowest Quartile	.90	.59

(Hispanic Children)

LEVEL INITIAL ABILITY	High	Low
Top Quartile	-1.29	-.97
2nd Quartile	.01	.06
3rd Quartile	.50	- .08
Lowest Quartile	-.01	1.83

To summarize, our reading of these data is that all of the children in our sample profited with respect to their oral productive abilities in English if they could interact with native speaking peers, but that this was more the case with children who were low in initial ability and, in this group, especially with Hispanic children. The Chinese children appeared to profit more from structured, relatively noise-free environments, and at the intermediate level of initial ability, from good language teaching and high quality of language input.

5.4.2. Comprehension Dependent Variables

Turning now to the measures of gain in comprehensive skills, we note first that there were no significant interactions for gains on the most difficult items. By most difficult we are referring to the difference between category IV on the Rock Game and V on the Shell Game. This indicates that there were no differences between subjects in how they were affected by our independent variables as a function of initial level of ability (as measured by Weighted Comprehension score on the Shell Game). Subjects at all levels of initial ability showed just about the same gains whether they were in classes high or low on our summary variables. There was some indication that subjects at the intermediate level of ability gained more on this dependent measure when they were in classes rated high for QUALITY OF LEARNING ENVIRONMENT and LANGUAGE QUALITY and worse when they were in classes high on INTERACTIONAL OPPORTUNITIES. But since the interaction effects were not significant in our regression analysis, we were not sure of the stability of these findings.

When we looked at the gain difference between items of moderate difficulty (category III on the Rock Game and IV on the Shell Game), we found significant interaction effects in the regression analyses (Table 5.7). This was also true for the gains in Weighted Comprehension score. Because the pattern of results was almost identical on these two measures, we will limit our discussion here to the Weighted Comprehension measures.

On the QUALITY OF TEACHING variable, the results indicated that subjects in the upper two quartiles (the children who were better initially in their comprehension) showed greater gains when they were in classes rated high on this summary variable. Children who were poorer initially showed greater gains when they were in classes rated lower on the QUALITY OF TEACHING variable. This was more true of Chinese than Hispanic children, however. Indeed, the interaction effect could be attributed entirely to Chinese children, as the Hispanic children consistently (over all levels of initial ability in comprehension) did better when they were classes rated higher in QUALITY OF TEACHING: These scores are for gain in Weighted Comprehension from Shell to Rock Game with about 10 subjects in each cell.

On the QUALITY OF LEARNING ENVIRONMENT and QUALITY OF INSTRUCTIONAL LANGUAGE variables there was a similar pattern. Inspection of the data by ethnic group revealed that Hispanic children at all levels of initial ability gained in their comprehensive skills when they were in classes rated high on these variables. This was the case for Chinese children with high or intermediate ability levels, but not for Chinese children with low initial ability. Children in this last category did best when their class was rated low on these variables.

On the INTERACTIONAL OPPORTUNITY variable we found a general tendency for all of our children at all levels of ability to show greater comprehension gains when the classes were rated low on this summary measure. The exceptions were Hispanic children at the highest or lowest levels of initial ability: these children showed greatest gains the more opportunities for interaction they had:

QUALITY OF TEACHING

(Chinese Children)

LEVEL INITIAL ABILITY	High	Low
Top Quartile	5.79	6.27
2nd Quartile	8.08	8.03
3rd Quartile	8.55	8.67
Lowest Quartile	9.20	10.53

(Hispanic Children)

LEVEL INITIAL ABILITY	High	Low
Top Quartile	6.19	5.68
2nd Quartile	7.60	7.31
3rd Quartile	8.55	8.43
Lowest Quartile	9.54	9.11

INTERACTIONAL OPPORTUNITIES

(Chinese Children)

LEVEL INITIAL ABILITY	High	Low
Top Quartile	5.73	6.31
2nd Quartile	7.93	8.21
3rd Quartile	7.66	9.27
Lowest Quartile	9.17	10.15

(Hispanic Children)

LEVEL INITIAL ABILITY	High	Low
Top Quartile	6.38	5.52
2nd Quartile	7.26	7.61
3rd Quartile	7.76	9.18
Lowest Quartile	9.60	9.10

The picture for Hispanic children seemed relatively clear. These children appeared to gain in comprehension when they were in classes rated high on QUALITY OF INSTRUCTIONAL LANGUAGE, QUALITY OF TEACHING, and QUALITY OF LEARNING ENVIRONMENT. Classes low on these variables (which often scored high on INTERACTIONAL OPPORTUNITIES) did not promote comprehension skills to the same extent for these children, although opportunities for interaction with English-speaking peers did seem to help children highest in initial comprehension skills and those initially poorest in comprehension.

The findings for our Chinese children were more difficult to interpret. Which factors lead to gains in comprehension for these children? We went back to some of the variables that made up the summary variables to see if looking at individual independent variables helped our understanding. We ran regression analyses on all of the Language Use variables and some of the Classroom variables.

Only a few of our variables seemed to affect comprehension gains for the Chinese children, but these constituted an intersting pattern. The Chinese subjects did not seem to gain more in their comprehension skills the more they interacted with native speaking peers. But "Practice in English in Formal Lessons" in which students worked under the guidance of teachers or teacher aides did lead to higher gains, especially for those who were poorer initially (the bottom two quartiles). For these children, both the scores on the moderately difficult items and the Weighted Comprehension scores were statistically significant (ps < .01 and .05 respectively).

Two other variables showed a similar pattern. The first was "Extended Responses Required and Modeled," which referred to the situation in which teachers frequently required extended oral responses (rather than single word or phrasal responses) in framing their elicitation questions, and assisted students in producing such responses by providing models and expansions for them as needed. The second variable was "Opportunities for Oral Participation" in which teachers frequently required students to respond orally during instructional activities. In both cases, Chinese (but not Hispanic) students at the lower levels of initial ability did especially well in

their gain scores for moderate items and Weighted Comprehension when their teachers were rated high on these dimensions.

We also ran correlations between our independent and depend variables separately for Chinese and Hispanic children (the three correlations are for gains on comprehension of difficult items, gains on comprehension on items of moderate difficulty and Weighted Comprehension Score):

Thus Chinese students tolerated teacher distractability less, did better on comprehension of moderately difficult items when they were in classes in which they received a great deal of independent help, and generally performed better the greater the time spent in class for teacher directed instruction than in individual seatwork.

The findings for the Hispanic students were, in many respects, much easier to interpret than were the findings for the Chinese. The Hispanic students clearly profited from opportunities to interact with peers, from quality teaching, and from exposure to quality instruc-

	Chinese			Hispanic		
"Teacher Distractability"	.01	-.32**	-.27**	.04	.03	-.06
"Individual Help Given"	.05	-.28*	.16	.04	.10	-.01
"Time in Teacher Directed"	-.01	.36**	.25**	.17	.15	.01
"Time in Individual Seatwork"	-.02	-.28*	-.22*	-.04	.00	.09

* $p < .05$ **<.01

tional language. The more opportunities they were given to work and interact with peers in the target language, the greater their gains in English production and in comprehension. Similarly, quality of teaching and instructional language were influential on the development of both production and comprehension skills. The quality of the learning environment, however, was negatively related to the gains in production scores for Hispanic students, but positively related to gains in comprehension scores. Even these seemingly contradictory findings are entirely consistent with the overall pattern for the Hispanic students. One major factor in the "QUALITY OF LEARNING ENVIRONMENT summary variable was Low Noise Level. The classes which were low on noise level were ones in which there was relatively little peer interaction--something, as we have seen, Hispanic students apparently need, especially for the development of production skills in the target language. When they were in classes that were rated high on the QUALITY OF LEARNING ENVIRONMENT, the students gained in comprehension, but not in production. This would suggest that Hispanic students would profit from a balance between interactive learning activities and teacher supervised learning activities. There should be some time each day when the classroom environment is quiet enough that the students can easily hear what teachers are saying.

The patterns of findings for the Chinese students in the study were more difficult to interpret. Their performance in classes that were rated high in variables that were quite important for the Hispanic students was, often enough, not greatly different than in classes that were rated low on them. The only strongly positive rela-

tionships we seemed to be able to find between their outcome scores in oral language development and in our independent variables were on relatively general factors such as "Percent Time in Teacher Directed Instruction" (positively related to gains in comprehension for everyone), and "Opportunities to Interact with Peers in English" (weakly related to gains in production, overall). As we have seen, in general, the Chinese students made gains in oral language development when they found themselves in quiet, work-oriented classroom environments in which teachers created opportunities for them to practice using the language, and provided them with help and guidance in its use. This would suggest that teachers were particularly important to this group of students, and that teacher differences on the two sets of variables that were directly related to what teachers said and did while working with students should greatly affect their performance. But this turned out not to be the case. They were apparently not as affected by differences in QUALITY OF INSTRUCTIONAL LANGUAGE or in QUALITY OF TEACHING as the Hispanic students were.

The Chinese students performed well when they were taught by teachers who were rated high on such variables, but they did not do so poorly when they were taught by teachers who were rated low. In trying to interpret this apparently unsatisfying finding, we returned to the video machines for a closer examination of our classroom data. This time we compared taped lessons from Chinese classes that were rated high on QUALITY OF INSTRUCTIONAL LANGUAGE and QUALITY OF TEACHING variables with ones from classes that were rated low on them. For good measure, we did the same with selected lessons from a sample of

the Hispanic classes. We paid close attention to student response during lessons that would have earned high ratings on various dimensions of these two large summary variables. What we found helped us make sense of these quite different patterns of performance. The Hispanic students behaved as we might predict, given the relationships that were found between quality of instructional language usage, quality of teaching and language learning outcomes. When their teachers were using language well and were doing quality teaching, the students participated enthusiastically in instructional activities. When the teachers were not clear, or when they were confused or confusing, the students tended to be much less involved. They were, in such situations, likely to turn their attention to more interesting and pressing matters--what their neighbors were doing or saying-- or to disengage their attention altogether. The Chinese students on the other hand, responded quite differently to teacher differences. With teachers who were rated high on quality of teaching and quality of language use, the Chinese students were like the Hispanic. They were enthusiastically involved in the lessons, and appeared to profit from their participation. They were not as enthusiastic when they were with teachers who were not so highly rated, but at the same time, they were no less involved in activities that were difficult to follow because they were poorly conceived or conducted. What we observed in viewing the Chinese students in confusing or poorly taught lessons was this: far from losing interest in such activities, the students seemed to be even more attentive than they were in ones that were easy to follow; they were inclined to lean forward in their seats and to turn their heads slightly, as if cocking their ears so they might hear better.

Their response to unclear teaching seemed to be this: if they could not understand what the teacher was saying, it was their failure rather than the teacher's. And so they listened more carefully, and were more attentive even to what their teachers were doing and saying in poorly taught lessons than in well taught ones and in so doing, the Chinese students apparently compensated for teacher differences. By listening all the more closely, they picked up a lot of English, even in lessons that were, objectively speaking, boring, confusing or pointless.

5.4.3 Summary of Findings on Production and Comprehension Gains

In summary then, it has been found that,

1. Different aspects of instructional practices and classroom experiences influence the development of comprehension vs. production skills;
2. The instructional practices that were found to influence language development have differential effects on learners depending on their initial level of proficiency in English;
3. The instructional practices and patterns of language use that generally influence language development work differently for children, depending on cultural background;
4. The role played by the teacher depends on the concentration of LEP students in the class and school, and on the availability of English speakers to interact with.

More specifically, we have shown the following relationship between our independent variables and oral language development:

1. Variables that influence the development of PRODUCTION

skills in English:

A. INTERACTIONAL OPPORTUNITIES were related to gains in production for everyone, but--

--There was a greater effect for Hispanic students than for Chinese students.

--There was a greater effect for students with low initial proficiency in English, generally. (The Chinese students were an exception--they got more out of interactiona opportunities when they were at intermediate levels of proficiency.)

B. QUALITY OF LEARNING ENVIRONMENT

--Significant gains for Chinese students with low initial levels of English proficiency in classes that were high on this variable.

--There was an opposite effect for Hispanic students:

--There was a negative relationship betwe classes that were high on this variable and gains in oral language production.

C. QUALITY OF INSTRUCTION[illegible] LANGUAGE and QUALITY OF TEACHING w[illegible] both related to gains in production skills for all, but--

--The greatest effects were related to gains f Hispanic students.

--There were relatively minor effects on Chine students, even at the lowest levels of initi English proficiency.

2. Variables that influence the development of COMPREHENSION skills in English:

A. Percent time in teacher directed activities (forma lessons, teacher directed discussions, etc.) was related to gains in comprehension for everyone.

B. QUALITY OF LEARNING ENVIRONMENT

--Related to gains in comprehension for Hispanic students at all levels of English proficiency.

--Related to gains for Chinese students only when they reached an intermediate level of English proficiency.

C. QUALITY OF INSTRUCTIONAL LANGUAGE

--Related to gains for the Hispanic students, but not the Chinese.

D. INTERACTIONAL OPPORTUNITIES

--Related to gains for the Hispanic students, but not for the Chinese students, in fact, the Chinese did worse in classes that were high on these variables!

E. Factors that were related to gains in comprehensio skills for the Chinese students:

* Verbal practice in teacher-directed lessons
* Practice giving extended responses in lesson
* Opportunities for oral participation in instructional activities
* Individual help given by teachers to student

Some major conclusions that can be drawn from these findings are:

1. All learners profit from opportunities to interact with peers who speak the target language, but the Hispanic students profit especially. The more opportunities they have to use English with peers, the more they gain in production and comprehension.

2. Chinese learners profit from interactional opportunities with peers only after they have reached intermediate levels of English proficiency.

3. Chinese learners profit more from structured, relatively noise-free learning environments. This factor is related gains in production and comprehension for them. It is related to gains in comprehension, but not in production for Hispanic learners.

4. Quality teacher directed instruction is important for all, but especially for the Hispanic students.

5. Hispanic students are relatively more sensitive to the quality of teaching and to the quality of the instructiona language they are exposed to than are Chinese students. Chinese learners are more "immune" to differences in teachers, because they tend to "compensate" for less successful teachers.

6. Chinese students profit most from close interaction with their teachers, and from assisted practice with the language in lessons. They depend more on adults for input than they do from peers. They need a lot of guided practi especially during the earliest stages of learning English.

5.5 Comparisons of Classes by Overall Gains in Proficiency

In Table 5.8, the classes are shown ranked by gains in production and comprehension scores, and by their beginning and ending scores in the two measures of proficiency as well.

Table 5.8

Third Grade Classes Ranked by Gains in English Proficiency and by Beginning and End Test Scores in Production and Comprehension

Class	Rank in Production Gain	Begin	End	Rank in Comprehension Gain	Begin	End
Gr 3 Chinese						
3C1	4	9	6	11	3	7
3C2	10	10	10	1	12	3
3C3	2	13	13	9	11	12
3C4	6	5	4	13	2	8
3C5	8	2	3	4	10	5
3C6	11	1	1	10	1	2
Gr 3 Hispanic						
3S1	3	7	2	8	4	6
3S2	13	11	11	5	5	4
3S3	1	12	12	3	13	13
3S4	5	8	5	6	6	9

3S5	9	3	7	2	9	1
3S6	7	4	8	7	8	10
Gr 5 Chinese						
5C1	3	3	4	1	4	3
5C2	2	2	1	4	1	1
Gr 5 Hispanic						
5S1	1	4	3	2	3	4
5S2	4	1	2	3	2	2

An examination of the relative rankings shown for the classes on this table will reveal that 1) the classes that beyan the highest gained the least, while the ones that began the lowest gained the most in production and comprehension, indicating a definite tendency toward the means; 2) in a few cases, however, the differences between pre and post-test scores were so great or little that the ranking of the class changed radically with respect to the other classes in the sample. Thus, being the among the highest in production and comprehension gains (first and third place, respectively) did nothing at all to alter the overall standing of 3S3. This Hispanic bilingual class was in twelfth place in production, and thirteenth place in comprehension, at the beginning of the year, and it remained at those positions at the end of the year, despite the gains that were made. A similar situation can be seen for 3C3 (the Chinese bilingual class that began in thirteenth place in production): it was so low that in spite of making the second highest gains in that measure, it stayed right at the bottom of the rankings. In the case of the class that began the highest in both measures of proficiency (3C6), being eleventh in production gains, and tenth in comprehension gains did little to alter its position a the top. It stayed in first place in production, and

7.2. The Ethnography of Bilingual Classrooms

In recent years a number of researchers have adopted what has become known as an "ethnographic" approach to classroom analysis (for a fuller discussion, see McLaughlin, 1985). This research approach comes from anthropology, and refers to a careful examination of the social and cultural knowledge that participants in social settings such as classrooms assume and act on in accomplishing whatever activities they are involved in. Ethnographic studies of classrooms typically focus on the knowledge underlying the interactional activities of teachers and students as they work together to accomplish the educational and social goals of the school. The ethnographer attempts to make explicit relationships and behavior patterns that members of a social group leave implicit. In the school context, this means examining the values and goals of the school and of individual teachers, and locking at what is taught and learned formally and informally.

A classic ethnographic study focusing on cultural issues in education is Susan Phillip's (1972, 1983) work on the "acquisition of rules for appropriate speech usage" among school children at the Warm Springs Indian reservation in Central Oregon. By comparing interaction patterns in Indian and non-Indian classrooms and in the Indian community, Philips was able to explain the Indian children's silence and non-participation in traditional classroom lessons. Philips had observed that Indian children were relatively unwilling to perform or participate in classroom learning activities when they had to speak alone in front of other students. On the other hand, the Indian chil-

dren were more willing than non-Indian students to participate in group activities that did not create a distinction between individual performer and audience.

A comparison of the classroom interactional patterns of Indian and non-Indian children showed that Indian first-graders were consistently slower in picking up classroom rules than were the non-Indian children. They tended not to remember to raise their hands and to wait to be called on before speaking; they wandered from one part of the room to another talking with other students while the teacher was talking. Their interest was more in what other students were doing than in what the teacher was doing. Instead of bidding for the teacher's attention, they competed for the attention of their fellow students. Such behavior patterns are at odds with the expectations of traditional classroom teachers. Philips found, however, that the children were behaving in ways that were quite consistent with the public behavioral patterns that were appropriate in their own community. In the Indian community, there were virtually no situation where some one person exercise control over the social and communicative behavior of everyone as in the classroom. Individuals did not have to be recognized or given permission before they could speak and be heard, but talked instead when they felt the urge. Most importantly, people were not put on the spot by being asked to speak (as teachers do when they call on students who have not volunteered and asked them to perform or to respond to elicitation questions) before others. If someone had something to say, he might volunteer it--but he did so when he was ready. This was in stark contrast to the communicative

patterns that existed in the classroom. The mismatch between social expectations and communicative patterns of the school and the Indian community made it quite difficult for the children to function there. The problem for the children was not that they could not deal with the communicative demands of the school (they spoke English fluently), it was that they found the rules of discourse there to be in conflict with everything they knew to be polite and proper social behavior. Their inability to deal with the social demands of the classroom setting drastically affected their academic performance in there.

One of the goals of ethnographic research has been to identify ways in which classroom activities can be structured so as to activate children's energies and competencies, without conflicting with school goals. This was indeed what happened in the school Philips studied. Once it was clear what the problem was, the school was able to restructure its instructional settings in ways to make them more hospitable and appropriate for the Indian children. The teachers were able to change the organization of instructional activities, and their communicative expectations to match those of the students. By the sixth grade, group learning activities predominated in the Indian classrooms, a change which apparently benefitted the students.

Another example of accommodation to the cultural background of minority children is the Kamehameha Early Education Program (KEEP) (Au & Jordan, 1981) for native Hawaiian children. Children from this background performed consistently poorly in school overall, but especially in reading. Ethnographic research (Boggs, 1972; Boggs & Watson-Gegeo, 1978) revealed that in the culture from which these children came,

narrative speech events were marked by "overlapping speech" and a collaborative speech style in which narration was jointly produced. This latter was one which was particularly evident in "talk story" events--story tellings in which children collaboratively produced narratives for themselves or for the sake of others. These children, like the Warm Springs Indian children, were discomforted by the communicative rules and expectations in their classrooms. They seemed to find particularly difficult the rule that one should not speak unless called on, and that only one person at a time should speak. When their teachers called on individuals, several or more children would speak up. It was found that in the native Hawaiian community adults called on children to speak or to answer questions principally when they were accusing them of wrong-doing. In such situations the socially appropriate thing to do was for everyone involved (that is, all of the children involved) to claim some of the responsibility for the misdeed so that no individual would have to absorb full blame. The Hawaiian children were merely acting on their rules of social solidarity when they responded jointly to elicitation questions that teachers were being put to individuals. In fact, they were behaving just as they might during a talk story event in their collaborative responses to teachers' elicitation questions. When teachers incorporated this speech style into their classroom routines and especially into their reading lessons, children began to make significant progress in reading and test scores improved markedly.

The method used in the reading program stressed comprehension rather than a phonics approach and utilized the talk story style. For

example, in a lesson about a frog, the teacher began by asking the children to tell all that they knew about frogs from personal experience. Overlapping speech was allowed, and everyone who wanted to do so could contribute. After an interval, the teacher introduced a text about a frog. The students read this material silently to themselves. After the story was read silently, another round of discussion took place, with the teacher guiding the discussion so as to ensure comprehension. This method contrasts sharply with the usual approach to reading in which each student reads aloud and mistakes are publicly corrected.

There is considerable evidence from ethnographic research that children from minority cultures learn better when classroom interactional patterns match patterns they are accustomed to. All teachers--including those from the same cultural background--need to be conscious of the need to make accommodations to the child's expectations and normal patterns of interaction.

7.3. Bilingualism and Biculturalism in the Classroom

Recognition of the native language and culture of the LEP students in educational programs like the ones we have studied has been a goal which is more often talked about than acted upon from our observations in this study. Schools have, for the past fifteen or so years, tried to make cultural accommodations in its curriculum in dealing with the growing diversity in the American student population. Changes have been made in textbooks to include depictions of

multiracial individuals in illustrations and stories. The cultural and social histories of different groups make their way into the school's curriculum and calendar. Ethnic foods find their way onto the school's cafeteria menu. The goal of these well-intended changes in the school's offerings is to incorporate the diversity found in the student body into the common culture of the school, and to instill a sense of belonging and ethnic pride in the students themselves.

But it should be noted that adaptation to the child's cultural background requires more than occasional history lessons or celebrations that are intended to give children from ethnic minority backgrounds a sense of cultural pride. What we would argue for is a much more radical adaptation, where substantial adjustments are made to accommodate to different patterns of learning and interactional style. We are in complete agreement with arguments that Philips and the KEEP researchers have made that what needs to be changed is not our ultimate educational goals for cultural minority groups. These children will need to master all of the academic, linguistic, and social skills and learn all of the information about their, in order to fill the adult roles that will be theirs when they grow up. This implies that mainstream values, patterns of language use, and interactional styles will have to be gradually introduced in the classroom, so that children can acquire them, and eventually make use of them in school and to function in the larger society. However, this can not be accomplished overnight. The school has to begin by creating a situation in which the cultural patterns of the children are recognized and accommodated early on. The classroom environment needs to be adjusted and

made appropriate, and then only gradually can new expectations be introduced.

In this context, "bicultural" means more than giving lip service to one culture or the other. At one extreme is the classroom that is essentially a mainstream classroom with occasional history lessons or celebrations that are intended to give children from ethnic minority backgrounds a sense of cultural pride. At the other extreme--much less common--is the classroom where substantial adjustments have been made to the child's cultural background, but where little is done to prepare the child to go on to the mainstream classrooms or into the mainstream culture.

An effective bicultural program is one in which the child's cultural heritage has a central place in instruction and where there is awareness of patterns of learning, language use and interactional style that are customary in the child's culture. At the same time, mainstream values, patterns of learning, language use, and interactional styles need to be gradually introduced so that the child at least has the opportunity to move out and function in the larger society. The point is not that one set of values or behaviors replaces the other, but that children has access to both sets so that they can form from both their unique bicultural identity.

Cazden, Carrasco, Maldonado-Guzman and Erikson (1980) have argued that bilingual teachers should have proficiency in the child's home language and respect for the child's cultural heritage. In addition, they argued that teachers need to have some awareness of the findings

of ethnographic research on culturally-defined patterns of language use and interaction styles. According to these authors, teacher training should contain an ethnographic element, so that future teachers become more aware of the way cultural assumptions affect their own and their students' language and behavior.

Cardenas and Cardenas (1972), and more recently, Henderson (1980) have argued that many ethnic minority group children, notably those from Hispanic backgrounds, are at risk upon entering school because their patterns of learning behavior as well as their cognitive and social makeup differ from and are incompatible with the norms and expectation that operate in the American classroom. These differences, it appears, do more than just affect the children's functioning in the classroom, they also affect the teacher's expectations of children's abilities and the teacher's response to them personally. Within the school environment, behaviors such as paying attention and persisting at tasks, even when they are not apparently meaningful, are valued. Because of their cultural background, some ethnic minority children may be less able than other children to make the functional adaptation to the interpersonal setting of the school culture. Behaviors such as lack of attentiveness and lack of persistence influence the expectations teachers hold, and these expectations often influence the ways teachers interact with children.

The result can be that the child develops a feeling of learned helplessness that come from experiences with repeated failure. A number of authors have made the point that teachers should encourage cultural and linguistic pride in minority-language children as a means

of instilling a sense of efficacy and worth (e.g., Gibson, 1978; Goebes & Shore, 1978). Henderson (1980) pointed out, however, that such attempts cannot fully accomplish their purpose unless children are helped to experience genuine feelings of personal and social competence within the school setting.

If it is granted that successful education has both a cognitive and an affective element, the importance of bicultural education becomes apparent. Children are likely to be more responsive to a teacher who is sensitive to their culture and its behavior patterns. In fact, Tikunoff (1983) found that successful bilingual teachers utilized information from minority-language children's native culture during instruction to gain maximum participation in instructional activity.

The distinction between cognitive and affective domains is also helpful in conceptualizing what bicultural education means in practice. In many programs, the bicultural component is presented to the children entirely at the cognitive level. Paulston (1978) gave the example of such a so-called "bicultural" curriculum in which one lesson plan had as its aim that "at the end of the lesson, the children will be able to correctly identify the Mexican flag." These and other cognitive activities (history lessons, slide shows on life in Mexico, etc.) do not, Paulston noted, reach the children affectively. Serious bicultural education affirms the value of the home culture and develops in children a positive attitude toward their background.

This approach would seem to require teachers who are not simply fluent in the two languages of the child, but who are from the same cultural background. Indeed, this is the prescription of a number of educators (e.g., Paulston, 1978), although the empirical evidence for the effectiveness of a cultural matchup between teacher and student is ambiguous (McLaughlin, 1985). In the present study, the teachers who proved to be the most effective in terms of helping LEP students develop both academic and English language skills included both those who were of the same culture and those who were not. In any event it seems clear that all teachers need to show appreciation of the cultural values and behavioral patterns of ethnolinguistic minority children. The children are likely to pick up the teacher's sentiments, and it is this affective communication, more than the content of the lessons on the child's cultural background, that will determine how effective bicultural education ultimately is.

The focus of this study has been on the discovering what kinds of instructional practices foster the development of the English language skills that LEP students require for school. We have investigated this question in bilingual and English only classrooms that serve LEP students, and as pointed out earlier, it has not been our intention to compare the effectiveness of these two approaches or types of programs in any way. The bilingual classes were, in no way, representative bilingual programs; that is to say, they were no more representative of bilingual education than the English-only classes were of educational programs in general. On the other hand, the classes that have been studied were not at all atypical of those that serve LEP stu-

dents. The bilingual classes that we investigated made far less use of the students' L1's than we had expected to find in bilingual classes. Indeed on this all-important dimension, the one which in fact should have differentiated the the bilingual classes from the English-only classes, there was far too little difference to have made a comparison between the two types of programs meaningful. We reported in Chapter 3 that the average L1 usage across our bilingual samples was just around 3% (compared to English usage and silence). There were just three classes of our bilingual sample that could have been described as real bilingual classes. The only truly bilingual class was one of the third grade ones (3S2) in which Spanish was used about 24% of the time. The other two were the two bilingual fifth grade classes (5S1 and 5C1) which were more bilingual in spirit than they were in reality, because they averaged only about 8% and 10% usage respectively. In each of these classes, the teachers were not only providing the LEP students with a first-rate educational experience in English which helped them develop high level English skills, they were also providing them with some real educational experiences in their L1's. When English was used for instructional purposes in these three classes, the teachers were careful not to go beyond the level of complexity that the LEP students could handle. The use of the L1 (Cantonese or Spanish) made it possible for the teachers to engage the students in linguistically unconstrained discussions of ideas and experiences occasionally, and in so doing to come to more mature understandings of the subject matter of school. The kind of qualitatively richer experience these children appeared to be having in these three classes is not necessarily quantifiable, at least not

in ways that we were assessing the instructional outcomes of the students in the classes we were studying. What was clear to us was that the children in all three classes appeared to be more involved in learning, and to participate more actively in classroom discussions when they were conducted in the language that they knew best. The benefits of this kind of experience may not be immediately apparent, but may take some years to show up even.

7.4. A Final Word

In conclusion, we believe that there is much that can be done to foster second-language learning in classroom contexts. There is a danger, however, that in learning English, the dominant language of the school and the dominant language of the larger culture, children will lose their first language. If this were to happen on a large scale, it would mean the loss of a valuable national resource, bilingual citizens. On a personal level, however, there would be an even greater loss. Children can lose their ability to communicate easily with their own parents, friends, and relatives.

Nowhere in recent literature has this situation been described more eloquently than in a book that argues, paradoxically, against bilingual education. In his autobiographical book, Hunger of Memory, Richard Rodriguez (1982) described how learning English separated him and his siblings from his parents. The school authorities had insisted that his parents speak English--a language they could use but poorly--with their children. Rodriguez wrote:

> ...as we children learned more and more English, we shared fewer and fewer words with our parents. Sentences needed to be spoken slowly when a child addressed his mother or father. (Often a parent wouldn't understand.) The young voice, frustrated, would end up saying "Never mind"--the subject was closed. Dinners would be noisy with the clinking of knives and forks against dishes. My mother would smile softly between her remarks; my father at the other end of the table would chew and chew his food, when he stared over the heads of his children (p. 23).

Rodriguez ceased to speak, and even to understand Spanish, and so was cut off from his parents, his relatives, and his heritage. He confessed that he continues to be "paralyzed by the thought of his parents' pained faces," but he argued that this was the price to be paid for assimilating into the public society. One wonders if it is not too steep a price--and one that need not be paid at all. A truly bilingual education is one that produces individuals who can talk fluently and comfortably in two languages.

As we end this study of second language learning, we are convinced that LEP students can develop fully adequate English language skills without having to give up their native language. We have been greatly encouraged to discover that although extremely complex, there are clear guidelines that we can offer educators on the design of educational programs that will facilitate language and academic development in students. We have even begun to identify educational programs and approaches that appear to fit the characteristics of the classrooms in our study which, collectively, added up to excellence in academic and language learning outcomes for our subjects.[3] The kind

[3]One of these is an educational model that was designed by Lois Meyer (1985; Meyer & Marein, 1984) for the American School in Mexico City, and now for San Francisco Unified School District. The bilingual instructional model that Meyer and her colleagues has developed is

of excellence we have in mind requires commitment, effort and support to achieve, however. Teachers can be trained to follow the instructional practices that will lead to language and academic development for LEP students, but they can succeeed only if they have the full support of educational policy makers, school administrators and parents.

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one that develops high level second language skills across the curriculum, and has provides students with a functional capability in the second language that is equivalent to that of native speakers. The program depends on sophisticated curriculum planning, and careful training of the teachers. It is a program which depends of committed, well prepared teachers--precisely what we have found to be the most important element of all successful programs for LEP students.

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APPENDIX A

Research Assistants' Checklist for NES Activity Survey

and Video Analysis Coding Sheets

#1 Observation Checklist for the NES Activity Survey

Counter # _____ to _____ Date _____ Time _____

CLASSROOM ACTIVITY SURVEY: [illegible]

Classroom Code: _____

Coder Name: _____

NAME	Brief Absence	Active	I.D.#
ES			
Thanh V. Tran			
ARGET			
Jason Chan			
John Cun			
Jimmy Lac			
Joyce Lee			
Simon Lee			
Stephanie Poon			
Kim Ta			
David Tang			
Gordon Tsan			
Elaine Wong			
Johnson Wong			
THER CLASS MEMBERS			
William Yue			
A co Xieag			
Koon San Lau			
Marvin ARmstrong			
Henry Choy			
Michael Hickman			
John Hui			
Maeking Lee			
Mary Lee			
Eric Ng			
Judy Ngo			
Giao Nguyen			
Daisie Yee			
Fong May Sai			
Flora Toy			
Jennifer Yee			
Lily Yu			
EACHER: Jones Wong			

CONTENT AREA	Sil.	Oral	LANGUAGE SELECTION* Y/A	C's	NES
READING					
WRITING					
SPELLING					
LNG ARTS:E					
LNG ARTS:L_1					
MATH					
SCIENCE					
SOC.STUD.					
LIBRARY					
MUSIC					
ART					
P.E.					
FREE TIME					
ANNOUNCEM.					
CLASS ROUTINE: _____					
OTHER: _____					

*LANGUAGE SELECTION CODES

One language only: EO, SO, CO
Language Mixing: E+ S, S+ E, E+ C, C+ E
E=S, E=C
Translation: E→S, S→E, E→C, C→E

COMMENTS: (Occurrence of anything unusual?, any especially interesting verbalization or interaction, etc.)

Classroom Org.				
1 Whole Class Activity	2	3 Small Group Activity	4	5 Individual Activity
1 All Students doing same work	2	3 Some Variety of tasks	4	5 Each child has own task
1 NES with mixed monol.-biling group	2	3 NES with biling. group only	4	5 NES with other NES only
1 Teacher assigns activ. and parts	2	3 Some student choice of altern. parts in teacher-assigned activ.	4	5 Students selec activity
1 Teacher controls activ--who speaks when, what doing	2	3 Teacher controls but some student autonomy & control	4	5 Students control activ
NES Participation				
1 NES freq. called on to speak	2	3 NES sometimes called on to talk	4	5 NES never call ed on to speak
1 NES freq.called on for NV participation	2	3 NES sometimes call-ed on for NV particip.	4	5 NES never call ed on for NV pa
1 NES freq. volunteers for verbal particip.	2	3 NES sometimes volunt. for verbal particip.	4	5 NES never vol. for verbal par
1 NES freq. vol.NV	2	3 NES sometimes vol.NV	4	5 NES never NV ve
1 NES highly involved	2	3 NES somewhat involved	4	5 NES not involv
1 High task confusion	2	3 Some task confusion	4	5 No task confus.
Teacher techniques				
1 Freq. use of rephr[illegible], stress, slowin[illegible], etc	2	3 Some use of "verbal" techniques to clarify	4	5 No use of "verb. techn. to clarif
1 Freq. use of NV demonstrations,etc.	2	3 Some use of NV demonstrations,etc	4	5 No use of NV demonstrations

412

413

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360

2 NES Debriefing Questionnaire

NES DEBRIEFING QUESTIONNAIRE

1) Class Code _____ 2) Observer _____

3) Type Class: (Circle one) Bilingual ESL 4) Date NDQ filled out _____

5) Who are the NES* students in your class, and when did they start in your classroom (or in an English-speaking classroom)? Where did they come from originally? Identify subgroups of NES if later you are going to talk about some being treated one way and others another way.

	Name	Date of Entry (month and year)	Subgroup (A,B,C,etc.)	Where from
a.				
b.				
c.				
d.				
e.				
f.				
g.				
h.				
i.				
j.				

* For the purposes of this project, NES students will be defined as those who have become students in a school using English for instruction <u>either</u> during this current school year (Fall 1981-Spring 1982) <u>or</u> during last year's school term (Fall 1980-Spring 1981)

6. In the beginning of the year, how were these students incorporated into your class? What subjects did they receive instruction in? Were they grouped separately with just other NES for instruction, or with other bilinguals or with a mixed group? What level of these subjects did they receive instruction in? Who was responsible for teaching these students these subjects (teacher, aide, other teacher,etc.)? What language was the instruction in? *If any of your answers to these questions are different depending on the particular NES student, answer for each student or group of students separately.

Name of Student or Subgroup Designation	Subjects received Instruction in	Level (Hi, Med, Lo;1,2, 3,etc.)	How Grouped (NES,Biling., Mixed Bil-Monol.grp.)	Who Taught	Engl./L1

7. Has the situation changed from what you describe above? YES NO
When did this change take place? _____(month & year; specify "gradually" if there was not a clear changing point.)
If the situation is now different from what you described above, fill out the sections below.

Name of Student or Subgroup Designation	Subjects now receiving instruction in	Level	How Grouped	Who Teaches	Engl/ L1

8. In the beginning of the year, were the NES students integrated into your class for activities other than those mentioned above in #6 -- e.g. classroom routines, class projects, music, art, PE, recess, etc.? YES NO

If they were integrated for some of these activities, indicate this information below.

Name of Student or Subgroup Designation	Activities in which these students were integrated with rest of class	Language used in this activity (Engl/L1)

9. Has the situation regarding integration into class activities changed for any of the NES students? YES NO

If "yes", when did this change take place? _____ (month&year or gradually)

If the situation has changed from what you described above, fill out the sections below.

Name of Student or Subgroup Designation of NES	Activities in which NES students are now integrated with rest of the class	Language used in these activities (Engl./L1)

10) In the beginning of the year, did the NES children or any of your target children receive special ESL instruction? YES NO

If any of your target or NES students received ESL then, fill out the sections below.

Name of ESL Instructor _____
Position of Instructor _____
Site of ESL Instruction: (Circle one) In classroom Other classroom Other pull-out locati

Prev. schl.	Names of NES or Target Students Received ESL Instruction	Frequency of Session	Length of Session	What instruction consisted o (What taught & how taught)

Did classroom teacher know what students were doing in ESL: Yes No Can't tell Not appl

Other comments about this ESL instruction not noted above or for which insufficient space was allotted above: _____

11) Has the situation relating to who is getting ESL instruction, who is giving it, what the ESL instruction consists of, etc. changed since the beginning of the year? YES NO

If the situation has changed, when did this change occur? _____

If the situation has changed, fill out the sections below. (Mark "same" where no change)

Name of ESL Instructor _____
Position of Instructor _____
Site of ESL Instruction: (Circle one) In classroom , Other classroom, Other pull-out loc

Prev. schl.	Names of NES or Target Students Now Receiving ESL Instruction	Frequency of Sessions	Length of Sessions	What instruction now consists of (content and method)

Does classroom teacher now know what students doing in ESL? YES NO Can't tell NOT APPLY

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12) In the beginning of the year, how did the teacher (or aide) deal with the special language needs of the NES students in instructional activities? (For example, what did s/he do to help them understand what was going on? Did s/he use more L_1 than usual when teaching them or when addressing questions or asides to them in whole class activities?)

Name of NES student or NES subgroup designation (Describe target subj.'s on last line)	% Time Content in Following Content Areas Taught or translated in L_1 to this NES student or grp.					% time asides or ?'s addressed to these NES in L_1 while in whole class lesson, et
	Reading	Math	Soc St.	Science	Other:	
Regular Target Subjects:						

13) Has the situation changed, in relation to how the teacher (or aide) deals with the special language needs of the NES students in instructional activities?

Name of NES student or NES subgroup designation (Describe target subj.'s on last line)	% Time Content in Following Content Areas Taught or Translated in L_1 to this NES student or group					% time asides or ?'s addressed to these NES in L_1 while in whole class lesson, et
	Reading	Math	Soc St.	Science	Other	

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14. In the beginning of the year, did the teacher make any special linguistic or subject matter adjustments when teaching the NES students (speak more slowly, speak louder, rephrase what was said, simplify what was said, give nonverbal demonstrations, illustrate with extra examples, etc.)? In sections below specify which techniques were used for both NES students or subgroups and target subjects and how frequently they were used.

Name of NES student or subgroup designation	Frequency with which techniques used to help students understand (Use 0=never, 1=once in while, 2=sometimes, 3=many times, 4=very freq.)						
	Spk. slow	Spk loud	Rephrase	Simplify	NV dem.	Extra Examples	Other_
Target Subjects							

15. Has the situation relating to the teacher's use of linguistic or subject matter adjustments with NES students changed since the beginning of the year? YES NO

If the situation has changed, when did this change occur? _____

If the situation has changed, fill out the sections below. (Mark same for parts with no chan

Name of NES student or subgroup designation	Frequency with which techniques used to help students understand (Use same codes, 0-4, as above to designate frequency)						
	Spk.slow	Spk loud	Rephrase	Simplify	NV Dem.	Extra Examples	Other
Target Subjects							

16. In the beginning of the year, did the teacher give extra instruction to the NES students directly on aspects of English (either grammar or vocabulary) either separately as a group or in asides to them during a whole class or small group lesson?

YES NO If "yes", specify what types of things were done in the section below.

Name of NES student or Subgroup Designation	Separate lessons about English		Explanations in asides in lesson	
	Grammar	Vocabulary	Grammar	Vocabulary
	(Use codes 0=never, 1=once in while, 2=sometimes, 3=many times, 4=very freq			
Target Subjects				

17. Has the situation relating to the teacher's direct instruction about aspects of English changed since the beginning of the year? YES NO

If the situation has changed, when did this change occur? _____

If the situation has changed, fill out the section below.

Name of NES student or Subgroup Designation	Separate lessons about English		Explanations in asides in lesson	
	Grammar	Vocabulary	Grammar	Vocabulary
	(Use same 0-4 frequency codes to describe how often occurs)			
Target subjects				

18. In the beginning of the year, how much participation in classroom learning activities was invited from the NES students by the teacher? Were these students asked to contribute opinions or information or answer questions? Or were these students asked to participate nonverbally in these activities? How often was participation of each type invited at the beginning of the year? (Use same 0-4 frequency codes as on #14-17)

Name of NES student or Subgroup Designation	Teacher invitations for Verbal Participation			Teacher invitations for Nonverbal Participation	
	Activities	How often?	Lang.	Activities	How often?
Target Subjects					

19. Has the situation relating to teacher's invitations for verbal and nonverbal participation changed since the beginning of the year? YES NO

If the situation has changed, when did this change occur? ____________

If the situation has changed, complete the section below.

Name of NES student or Subgroup Designation	Teacher Invitations for Verbal Participation			Teacher Invitations for Nonverbal Participation	
	Activities	How often	Lang.	Activities	How often?
Target Subjects					

20. In the beginning of the year, did NES students tend to volunteer their opinions, knowledge, experiences, etc. either verbally or nonverbally? What activities did they tend to volunteer in? How frequently? (using the 0-4 frequency codes as before) What language did they use (English or L_1) when they volunteered?

Name of NES student or Subgroup Designation	Voluntary Verbal Participation Activities	How often	Lang.	Voluntary Nonverbal Participation Activities	How often?

21. Has the situation relating to the volunteering by NES students changed since the beginning of the year? YES NO

If the situation has changed, when did this change occur? _____

If the situation has changed, complete the section below.

Name of NES student or Subgroup Designation	Voluntary Verbal Participation Activities	How often	Lang.	Voluntary Nonverbal Participation Activities	How often?

22. In the beginning of the year, when your NES students were given free time in the classroom, what did they tend to do, and with whom did they tend to do this (i.e., other NES, LES students (target), Anglos, Blacks, or others) and how often with each type (use frequency codes 0-4 as before)?

Name of NES student or Subgroup Designation	What did NES do during free classroom time	With whom did they do this activity	Lang. of activity	How often did this activity with these students

23. Has the situation relating to what NES students do with their free time in the classroom changed since the beginning of the year? YES NO

If the situation has changed, when did this change occur? _____

If the situation has changed, complete the section below.

Name of NES student or Subgroup Designation	What does NES do during free classroom time	With whom do they do this activity	Lang. of activity	How often do this activity with these students

24. In the beginning of the year, when your NES students were given free time during recess, what did they tend to do, and with whom did they tend to do this (i.e., other NES, LES students (target), Anglos, Blacks, or others) and how often with each type (use frequency codes 0-4 as before)?

Name of NES student or Subgroup Designation	What did NES do during free recess time	With whom did they do this activity	Lang. of activity	How often did this activity with these students

25. Has the situation relating to what NES students with with their free time during recess changed since the beginning of the year? YES NO

If the situation has changed, when did this change occur? ______________________

If the situation has changed, complete the section below.

Name of NES student or Subgroup Designation	What does NES do during free recess	With whom do they do this activity	Lang. of activity	How often do this activity with these students

3 Video Analysis Coding Sheets

First page: Index sheet for video target subjects

Second page: Checklist of teacher and student behaviors

Counter # _____ to _____ Date _____ Time _______

VIDEO ANALYSIS INDEX:SPECIAL TARGET SUBJEC

Classroom Code: ___________

Coder Name: ___________

10-1

NAME	Brief Appear.	Active	I.D.#
'ECIAL TARGET :UBJECTS:			
)THER TARGET ;UBJECTS & NES:			
)THER CLASS MEMBERS			
TEACHER:			

CONTENT AREA	Sil.	Oral	LANGUAGE SELECTION* T/A	C's	S*
READING					
WRITING					
SPELLING					
LNG ARTS:E					
LNG ARTS:L_1					
MATH					
SCIENCE					
SOC.STUD.					
LIBRARY					
MUSIC					
ART					
P.E.					
FREE TIME					
ANNOUNCEM.					
CLASS ROUTINE: -------------					
OTHER: -------------					

***LANGUAGE SELECTION CODES**

One language only: EO, SO, CO

Language Mixing: E+ S, S+ E, E+ C, C+ E

E=S, E=C

Translation: E→S, S→E, E→C, C→E

Good sample of speech from target child on this segment	YES	NO
Good sample of speech from teacher on this segment	YES	NO

Classroom Org.

1	2	3	4	5
Whole Class Activity		Small Group Activity		Individual Activity
All Students doing same work		Some Variety of tasks		Each child ha own task
S* with mostly mono lingual group		S* with evenly mixed monol-bil.grp.		S* with mostl biling. group
Teacher assigns activ. and parts		Some student choice of altern. parts in teacher-assigned activ.		Students sele activity
Teacher controls activ--who speaks when, what doing		Teacher controls but some student autonomy & control		Students control acti

S* Participation

1	2	3	4	5
S* freq. called on to speak		S* sometimes called on to talk		S* never cal ed on to spea
S* freq.called on for NV participation		S* sometimes call-ed on for NV particip.		S* never cal ed on for NV p
S* freq. volunteers for verbal particip.		S* sometimes volunt. for verbal particip.		S* never vo. for verbal par
S* freq. vol.NV		S* sometimes vol.NV		S* never NV v
S* highly involved		S* somewhat involved		S* not involv
High task confusion		Some task confusion		No task confus

Teacher techniques

1	2	3	4	5
Freq. use of rephras., stress, slowing,etc		Some use of "verbal" techniques to clarify		No use of "verb techn. to clari
Freq. use of NV demonstrations, etc		Some use of NV demonstrations, etc		No use of NV

374

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10-2

VIDEOTAPE ANALYSIS: Checklist of key Teacher and Student Behaviors

Classroom Code: _____
Videotape Code: _____
Counter # _____ to _____

TEACHER

TEACHER INPUT

	Language Tutoring (Modeling answers, or pattern of answers, labeling, lang. explanation, expansions, or corrections of child utterances)
	Eliciting Language (Questions, prompt slots, prompt say, calling on)
	Teaching: Formatting (Instructional directives, announcements, etc.)
	Teaching: Content - V (Providing information, giving explanations, etc.)
	Teaching: Content-NV (Demonstrations, etc.)
	Modifying Previous Utterance (Upgrading, varying or paraphrasing, downgrading, repeat+, repeat-)

TEACHER FEEDBACK AND RESPONSE

	Evaluative Feedback to answer or utterance (Evaluate, correct)
	Confirming, Acknowledging Feedback (Got it, right, didn't get it, huh?)
	No Feedback (No response, ignore)
	Request Feedback or Confirmation of Understanding
	Rescue - By Translating or Prompting in L_1
	Rescue - By Answering For child or Modeling

TEACHER SOCIAL CONTROL AND RESPONSE

	Behavioral Directives (including Attention requests)
	Evaluating Behavior (Reprimanding or Praising Behav.)
	Compliance to Directive or Request for Behav.
	Rejection of Directive or Request for Behav.

429

TARGET STUDENT

STUDENT GETTING AND USING HELP

	Questions about Language (How say, request repetition, request feedback about spec
	Questions about Content
	Making Do (L1-L2 combined, routines, formulas, pretend words, circulocutions, fragments, etc.)
	Imitations (repeating model, spontaneous imitation of self or others)
	Practice (Language practice, word or sound play, et
	Avoid (Use of L_1 or L_2 to avoid use of other, stall, laughter, no response, nonverbal response to avoid verbal response)

CHILD INITIATIONS AND PARTICIPATION

	Information/Participation (answering, commenting, recounting, asserting, volunteering, instructional directives to other childr
	Language Tutoring (for other children)
	Evaluative Feedback to other children about language or content answers (Evaluate, Correct)
	Demonstrate (Give nonverbal demonstrations to clarify meaning for other children)

CHILD SOCIAL AND BEHAVIORAL CONTROL AND RESPONSE

	Behavioral Directive (including attention requests)
	Evaluating Behavior (reprimanding or praising behav)
	Compliance to Directive or behavioral request
	Rejection of Directive or behavioral request
	No Response to Directive or request (ignore, NR)
	Complaint (including tattling)

375

430

APPENDIX B

Transcript of Stimulus Tape

The Shell Game

Item 1: Hello there! We are going to begin our science lesson in just a second, but before we do, you need to get yourself ready. Look on the table near you: you will find a pair of earphones. Put them on so you can hear me better. If you need help getting them on, ask my helper who is sitting there right beside you to show you how they go on.

Item 2: Have you got them on?

Item 3: Raise your hand if you can hear me through the earphones.

Item 4: There's also a little microphone on the table. Put it on your collar. If you have trouble, ask my helper to show you how to do it.

Item 5: When I ask you a question I want you to answer out loud. Let's try it out. Say your first name.

Item 6: Did you hear yourself? Would you repeat your name for me?

Item 7: And now, say your whole name.

Item 8: Good! Now tell me what school you go to, and what your teacher's name is.

Item 9: Fine! Now let's get started. This lesson is going to be about seashells. My helper will show you a seashell so you will know what we are going to be talking about. I'll be telling you some things about shells, and the animals that live in them. Then I'll ask you some questions about the things I have told you. Remember what I told you to do when I ask you questions? What are you supposed to do when I ask you a question?

Item 10: You're going to answer by speaking out loud. Let's try it out. What's this lesson going to be about?

Item 11: It's going to be about shells and the animals that live in them! Now, if you look under the table you'll see two boxes. Don't touch them yet! Just look!

Item 12: One box has a picture of a shell on top. What does the other box have on it?

Item 13: Pick up the box with the picture of the shell, and put it on the table. Push the other box out of the way so you won't step on it.

Item 14: OK! Now, open the box.

Item 15: When you have opened it, tell me what you find inside the box.

Item 16: Did you find three sheets of paper?--a white sheet, one that's brown, and a black one?

Item 17: Did you also find two bags with shells in them?

Item 18: Before we begin, I want you to arrange the three sheets of paper on the table in front of you. First lay the write sheet down on the table right in front of you. Then put the black sheet to the right of the white sheet, and the brown on the left so that the white sheet is between the black and the brown.

Item 19: I want to be sure you have the paper laid out just the way I said, so will you ask my helper to take a look at what you have done? Would you ask 'em if it looks right?

Item 20: Now take a look at the bags of shells that were in the box.
Pick up the bags and look at them, but don't take the shells out yet. Each bag has different kinds of shells in it, and is numbered. Can you find the numbers on the bags? What are they?

Item 21: Put bag number two back in the box.

Item 22: Let's begin by taking the shells out of bag number one. Take them out carefully and lay them out on the black paper so you can see them.

Item 23: Several of the shells look like round fans. They have ridges--raised lines--on their backs. Feel the top of these shells with your fingers and you'll feel the ridges.

Item 24: Can you tell me what ridges are?

Item 25: They're raised lines you can feel! Now look for a shell with a row of holes across it.

Item 26: Did you find it?

Item 27: Some of the holes are open, some are not. How many of the holes are completely open? Count them out loud.

Item 28: Now take a look at that shell and tell me what it looks like. How would you describe it?

Item 29: Turn the shell over now. What about that side? Can you describe it?

Item 30: OK, now put the shell back on the paper with the others, and I will tell you some things about the animals that used to live in these shells.
These shells are all empty now. There's nothing in them. But they used to have marine animals living in them. For marine animals that live in shells, the shell is like their home, and it protects them from harm. Marine animals are animals that live in the sea. They stay in the water.

Let's see if you remember what I've just said: What can you tell me about marine animals?

Item 31: Can you tell me something about marine animals that have shells? What is the shell for?

Item 32: OK, marine animals that have protective shells are called mollusks. They can't live without shells. Now you tell me: What is a mollusk?

Item 33: They're marine animals that have protective shells! They need shells because they don't have bones. The shells are like their homes. They stay in their shells, and their shells keep them from harm. Now can you tell me why they need shells?

Item 34: What do you think would happen to these little animals if they had no shells?

Item 35: Can you think of any other creatures that have shells to protect them?

Item 36: Did you think of garden snails?

Item 37: What about turtles?

Item 38: All right, now look at the starfish. That's the biggest thing on the paper. I'll bet you know why it's called a starfish. Can you tell me?

Item 39: It's shaped like a star, isn't it? Now touch the starfish and tell me what it is like. Can you describe it?

Item 40: It's rough and it has little white bumps all over it, doesn't it?

Item 41: Now turn the starfish over, and describe the other side.

Item 42: It's got a grooved star cut into it, as you see. The starfish is not a shell. It doesn't have a shell at all. It's a marine animal, but it ISN'T a mollusk. Can you tell me why it isn't a mollusk?

Item 43: If you said it wasn't a mollusk because it doesn't have a shell, you are right! It isn't a mollusk because mollusks are marine animals that have shells, and the starfish doesn't have a shell. So now, if someone asked you why the starfish isn't a mollusk, what would you say?

Item 44: It isn't a mollusk because it doesn't have a shell! OK, now leave these shells on the black paper, and get the other box with the picture of the fish on it from under the table.

Item 45: Put this box right on your white paper.

Item 46: Fine! Now open up the box and tell me what you see. Describe the inside of the box for me.

Item 47: The box is fixed up to hold a shell collection. You can help me put the shells where they belong. The words that you see tell you which shells go in each space. But these names are a little hard for you to read, so I will help

you out by telling you where each shell goes. Then you can help me arrange the collection. Now, if you will pull the black paper with the shells on it just a little closer to you, we can begin.

Item 48: First, take a look at the fan-shaped shells with ridges. Find the largest one of these and put it in the small yellow space in the box.

Item 49: OK--now get the starfish and put it in the big blue space in the center of the box.

Item 50: OK? Now take the shell with the holes and put it in the large yellow space.

Item 51: Fine, now why don't you put the rest of the shells in the blue space with nothing in it.

Item 52: Now that you've done that, can you tell me where everything is so I can be sure you have done what I have asked? I want you to be sure to say where each thing is--the starfish, the ridged shell, the one with the holes and all the rest of the shells.

Item 53: OK, then. Now let's get the other bag of shells from the shell box.

Item 54: Take the shells out of the bag carefully and lay them out on the brown paper so we can see what we've got. How are these shells different from the ones you have already arranged in the box?

Item 55: OK, now find a shell that has a tiny starfish glued on it. Pick it up and look at it, but don't pick the star off!

Item 56: This shell is called a CONESHELL. Would you say that? CONESHELL.

Item 57: Put this conesnell with the starfish on it in the big green space in your box.

Item 58: Now find another coneshell, and put this one on top of the big starfish that's already in the box.

Item 59: Now there are two coneshells in the box. Show my helper the coneshell with the starfish on it.

Item 60: That's fine. Now let's look at the other shells. The rest of the shells on your paper are sea-snail shells. The creatures that lived in them were soft and squishy, just like the snails in your yard. Their shells are like little houses that they can carry along with them. Hold one of the shells up and peek inside it.

Item 61: There's nothing inside the shell anymore. What do you suppose has happened to the snail?

Item 62: If someone asked you what kind of creature lived in these shells, what would you say? What could you tell him about seasnails?

Item 63: How would you describe the shell?

Item 64: Now then, if you look at all of the snail shells on the paper, you'll notice that they do not all look alike. There are two kinds of snail shells there. Can you tell me how the two kinds are different?

Item 65: You noticed, I'll bet, that some of the snail-shells are pinkish in color, and these pink ones have spikes or little points sticking up all over them. So what are spikes?

Item 66: Spikes are little points that stick up. And these pink spiked shells are different from the ones that are gray in color and are smooth. Pick up all of the smooth gray snailshells and put them in the orange space in your box.

Item 67: Now put the pink spiky shells in the small red space in the box.

Item 68: Oh! There's a space in your box with nothing in it! Find it and show it to my helper.

Item 69: What do you think about putting the coneshell that's on the starfish in that last space? It would be better there than on top of the starfish, wouldn't it?

Item 70: Good! And now you've helped me get the collection all arranged in the box, and we are done with the lesson. Cover up the box with its lid, and put the three sheets of paper on top of it.

Item 71: Is that done? Thanks for helping me with this lesson. Take off your earphones--you've been great! Goodbye.

THE ROCKY HORROR TEST

1. Hello! We will begin our lesson in just a minute. For this lesson, you will need some things that are on the table right in front of you--a pair of earphones and a tiny microphone. Put the earphone on first. Then clip the microphone on your collar. If you need help, ask my assistant who is there with you to give you a hand.

2. Did you put on the earphones first?

3. Tell me where you put the microphone.

4. Now then, can you hear me OK?

5. I'll be asking you some questions in this lesson, and I want to be certain I can hear your answers. Please speak clearly right into the microphone each time, otherwise I won't be able to hear you. Let's try it out. Say your name for me--your whole name, please.

6. Were you able to hear yourself?

7. Fine. Let's begin. This lesson is a science lesson about rocks. I'll be telling you about different kinds of rocks: what they are made of, how they get formed, and what we can do with them. Then I will ask you some questions about the things I have told you. Do you remember what I told you to do when you answer my questions?

8. Can you tell me why you need to speak directly into the microphone?

9. I won't be able to hear you unless you do! Let's try another question, and see how your answer sounds. What is the lesson going to be about?

10. It's going to be about rocks--different kinds of rocks, what they are made of, how they are formed, and what you can do with them. You will need some materials for this lesson which my helper can give you. Tell'em when you're ready to look at the materials.

11. Did you get a box and a big envelope?

12. Open the envelope, but not the box.

13. Can you tell me what's inside the envelope?

14. You found three sheets of paper inside, didn't you? Show my helper the yellow sheet first (pause), then the blue sheet (pause), and finally, the green one.

15. Now arrange them side by side in front of you so that the yellow sheet is between the other two.

16. Now let's make sure that I know where everything is. Where is the blue sheet?

17. And how about the green and yellow sheets?

18. Now open the box. You'll find three bags of rocks inside. The bags are numbered. We're going to use bag #1 first. Take that bag out, and leave the other bags inside the box.

19. Take the rocks out of bag #1 and put them on the yellow paper in front of you.

20. Some of these rocks look like pieces of glass. Put the ones that do in the big square on the green paper.

21. Each of these rocks has flat sides. Feel one of the sides with your finger and tell me how you would describe it.

22. Did you say that it was smooth, hard and cool? The rocks that look like glass are called crystals. Crystals have flat sides and sharp edges. Many of them are clear. That means you can see through them. Hold up one of the crystals and look through it. Can you see through it?

23. Now what can you tell me about crystals?

24. They have flat sides and sharp edges, and some of them are clear. Do you remember what it means to say something is clear?

25. When something is clear, you can see through it. How are these crystals different from the other rocks you took out of bag #1?

26. The crystals are like glass and you can see through them. The others are not clear--you cannot see through them. OK, now put the crystals back in the big square on the green sheet.

27. All of the rocks that were in this bag are called <u>igneous</u> rocks. That means they were formed by heat. Many years ago, when the earth was young, much of its surface--the ground--was molten. Molten means melted--when rock is very hot, it turns into very thick liquid or goopy syrup. When the earth cooled, its molten surface hardened into rock. OK, all of the rocks you have in front of you are igneous, which means they were formed by heat. Now can you tell me what igneous rocks are?

28. Igneous rocks are rocks that were formed by heat long ago. But not all igneous rocks were formed when the earth was young. Even today, there are places on the earth where the surface is still molten. Can you guess what kinds of places these might be?

29. Did you guess volcanos? If you did you were right. Volcanos are mountains that are formed where the earth's surface is thin. The molten rock that is just underneath the surface blows a hole through the ground and the molten rock comes out in a big eruption. This kind of rock is called lava. There is a piece of lava among the rocks on your yellow paper. Can you guess which one it is?

30. The lava is the biggest piece of rock in front of you. Pick it up and describe it for me.

31. Lava is rough and has a lot of little holes with sharp edges. Now let's see if you remember what I told you about where lava comes from. Can you tell me what you remember?

32. Lava is rock that comes out of volcanos when they erupt. Put the lava on one of the small squares on the green paper.

33. Now look for the rock that's got a pointed tip. Did you find it? Hold it up and look at it very carefully.

34. This rock is special. It's a kind of igneous rock that's very hard. It's so hard, the Indians used it for cutting things. An Indian made the piece of rock you have in your hand into an arrowhead. Look at it and describe what it looks like.

35. The arrowhead has a smooth flat surface and a pointed tip, as you see. It has a smooth flat side, but it isn't a crystal. Can you tell me how you can tell it isn't a crystal?

36. If you said it isn't a crystal because you can't see through it, you're right. It is formed by heat like the other igneous rocks, but it isn't a crystal. Now put the arrowhead in the small square that is left on the green paper, and take bag# two from the box.

37. These rocks are different. They were not formed by heat; they were formed by water. One of them was formed from sand that was washed into the sea from the land. It is called sandstone. If you look carefully, you'll find a rock that is layered. It has marks on its side that look like stripes. Can you find it?

38. The stripes mark layers in this piece of sandstone. Each layer of sand was washed into the sea at a different time. Now tell me what you know about how sandstone is formed.

39. It was formed from layers of sand washed into the sea from the land. Put this piece of sandstone in the small square on your blue paper.

40. Now look at the other two stones from bag #2. These are limestones. They were also formed by water, but they are not made from sand. Limestone was made millions of years ago out of the shells and bones of tiny sea animals that died and sank to the bottom of the sea. Take a look at the smaller piece and tell me what it is like.

41. It looks like chalk, doesn't it? Put this piece of limestone on the other small square on the blue sheet, and pick up the other piece of limestone from the table and look at it.

42. Sometimes we find fossils in limestone. Fossils are the remains of larger plants and animals that got buried in the sea. See if you can find any fossils in this piece of limestone. Can you tell me how they might have gotten in there?

43. The shells must have gotten buried among the tiny animals that turned to limestone, right? Put this piece of limestone in the big square on the blue paper.

44. Now take a look at how you have the rocks arranged. The rocks on the blue paper were formed by water. Do you remember how rocks on the green paper were formed?

45. Did you remember that those rocks were formed by heat? Now let's see if everything is placed where it should be. I want you to tell me where each rock is. Be sure to say where you put the crystals, the arrowhead, the lava, the sandstone, and the two pieces of limestone.

46. OK then, let's take a look at the last bag of rocks--the one that's left in the box. Can you put the rocks from that bag on the yellow paper?

47. The rocks in this bag were first formed by water. All of them have been changed over time. TAke a look at the light colored rock. Did you find it?

48. This rock used to be a piece of limestone, but it was changed into marble by heat and pressure. Does it look like the limestone that you have on the blue paper? How is it different?

49. It's a lot harder than limestone, isn't it? Marble is very useful because it's so hard, and it lasts a long, long time. People make statues out of it. Why do you suppose it's used for statues?

50. Marble is used because it is hard and lasts for a long time. Put the piece of marble back on the yellow paper and look at the other rocks.

51. One of the rocks on the yellow paper started out as sandstone and was changed into something else. It's the dark gray rock. Find it and show it to my helper. Did you find it?

52. This piece of rock is called slate. It used to be sandstone but it became very hard after many years. Sandstone is very soft and it breaks easily. People use slate for making blackboards and roofs. Why couldn't you make blackboards and roofs out of sandstone?

53. Sandstone is too soft for that, isn't it? Put the slate back on the yellow paper and look at the last piece of rock. It's the shiny black rock.

54. This is a piece of coal. Coal is made of plants that grew near rivers and lakes millions of years ago. When these plants died, they fell into the water and rotted. After a long, long time, they turned into this kind of rock. Hold the coal up and look at it carefully.

55. Now if someone asked you what you know about coal, what would you say?

56. Did you say it's made from plants that grew near rivers and lakes long ago? Coal is a strange rock because it can be burned. When it is burned it gives off a lot of heat. Did you know it can be used to heat houses?

57. So now you know how rocks can be used by people. Let's see if you remember the uses of the rocks you have on the yellow paper. What's marble used for?

58. Did you remember that people can make statues out of marble? And what about the slate?

59. People use slate for blackboards and roofs, right? And do you remember how coal is used?

60. Coal can be burned and used for heating houses. So now our lesson has come to an end. Would you help put everything away? First, put the rocks on your green paper back into bag #1, and then put it back in the box.

61. Next, put the rocks on the blue paper back in bag #2, and put that away in the box.

62. Now then, the rocks on the yellow paper go into bag #3, and it belongs with the other bags in the box.

63. Oh, and the papers belong in the envelope.

64. When you're done, you can take off the microphone and the earphones. Thanks very much for your help--you have been great.

3-6

ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
1. Put the earphones on first; then clip the microphone on your collar.	a. None b. Repeat c. Do you know what earphones (and/or microphones) are? Good, put them on.									*FULL NVR:* *(1) Earphones on first (2) Microphone on collar next.* *Verbal: Asks for help*	
2. Did you put on the earphones first?	a. None b. Repeat c. Did you put on the earphones? Did you do that first?									*FULL V/NVR:* *Indicates "Yes" or "No" but only if true.*	
3. Tell me where you put the microphone.	a. None b. Repeat c. Where did you put the microphone?									*FULL VR:* *Says where microphone placed.*	
4. Can you hear her ok?	a. None b. Repeat c. Did you hear the teacher?									*FULL V/NVR:* *Yes or no.*	
5. Say your name for me -- your whole name, please.	a. None b. Repeat c. Say your whole name.									*FULL VR:* *Gives first & last name.*	

387

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3-7

ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
6. Were you able to hear yourself?	a. None b. Repeat c. Did you hear your voice?									*FULL V/NVR:* *Yes or No*	
7. Do you remember what she told you to do when you answer her questions?	a. None b. Repeat c. What should you do when she asks you something?									*FULL VR:* *"Answer" (speak into microphone)*	
8. Can you tell me why you need to speak directly into the microphone?	a. None b. Repeat c. Why should you speak right into the microphone?									*FULL VR:* *"You won't be able to hear me."*	
9. What is the lesson going to be about?	a. None b. Repeat c. What will the lesson be about?									*FULL VR:* *"Rocks"*	
10. Tell me when you're ready to look at the materials.	a. None b. Repeat c. Are you ready to look at the materials? Tell me you're ready.									*FULL VR:* *"I'm ready"*	

388

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ITEM	PROMPTS	RESPONSE CORRECTNESS Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
11. Did you get a box and a big envelope?	a. None b. Repeat c. Do you see a box? Do you see a big envelope?									*FULL V/NVR:* *"Yes"*	
12. Open the envelope, but not the box.	a. None b. Repeat c. Open the envelope. Don't open the box.									*FULL NVR:* *(1) Opens envelope* *(2) Leaves box alone*	
13. Can you tell me what's inside the envelope?	a. None b. Repeat c. What is inside the envelope?									*FULL VR:* *"3 sheets of paper"*	
14. Show me the yellow one first, then the blue one, and finally the green one.	a. None b. Repeat c. First hold up the yellow one. (pause) Now show me the blue one. (pause) Now show me the green one.									*FULL NVR:* *Shows sheets in order* *(1) yellow* *(2) blue* *(3) green*	
15. Arrange them side by side in front of you so that the yellow sheet is between the other two.	a. None b. Repeat c. Put the blue and the green sheets down on the table. Now put the yellow sheet between them.									*FULL NVR:* *(1) Arranges sheets side by side* *(2) Yellow in middle*	

3-6

389

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ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
16. Where is the blue sheet?	a. None b. Repeat c. Where is the blue sheet... on the left or on the right?									*FULL VR:* Says where blue is *FULL NVR:* Indicates where blue is.	
17. How about the green and yellow sheets?	a. None b. Repeat c. Where is the green sheet? Where is the yellow sheet?									*FULL VR:* Says where-- (1) green & (2) yellow are *NVR:* Indicates where green & yellow are.	
18. Open the box. Take bag #1 out. Leave the other bags inside.	a. None b. Repeat c. Do you see the box? Open it. Do you see bag #1? Take it out of the box. Do you see the other bags? Leave them inside.									*FULL NVR:* (1) Opens box (2) Takes #1 out only	
19. Take the rocks out of bag #1 and put them on the yellow paper in front of you.	a. None b. Repeat c. Do you see the rocks in bag #1? Take them out. Put them on the yellow paper.									*FULL NVR:* (1) Takes rocks out of bag (2) Puts them on yellow paper.	
20. Put the rocks that look like pieces of glass in the big square on the green paper.	a. None b. Repeat c. Find the rocks that look like glass. They belong on the green paper. Can you put them on the big square?									*FULL NVR:* (1) Finds crystals (2) Puts them on large square (3) On green paper	

3-9

390

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3-10

ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
21. Feel one of the sides of the rocks with your finger and tell me how you would describe it.	a. None b. Repeat c. Feel one of these rocks. (point) What does it feel like?									*FULL V/NVR:* *(1) Feels rocks* *(2) Describes*	
22. Hold up one of the crystals Can you see through it?	a. None b. Repeat c. Hold up one of the crystals. (point) Look through it. Can you see anything?									*FULL VR/NVR:* *(1) Holds up crystal* *(2) Looks through it* *(3) Indicates YES/NO as appropriate*	
23. Now what can you tell me about crystals?	a. None b. Repeat c. What kind of sides do crystals have? What kind of edges do crystals have?									*FULL VR:* *Describes crystals or says something about them.*	
24. Do you remember what it means to say that something is clear?	a. None b. Repeat c. What does 'clear' mean?									*FULL VR:* "You can see through it" *FULL NVR:* *Indicates that you can see through it.*	
25. How are these crystals different from the other rocks you took out of bag #1?	a. None b. Repeat c. Look at the crystals. Now look at the other rocks. Are the crystals different from the other rocks? How?									*FULL VR/NVR:* *(1) Compares crystals and other rocks* *(2) Says how rocks are different*	

391

250

BEST COPY AVAILABLE

A-1

3-11

ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
26. Put the crystals back in the big square on the green sheet.	a. None b. Repeat c. Pick up the crystals. Put them in the big square on the green sheet.									*FULL NVR:* *(1) Puts all crystals* *(2) in Big square* *(3) on Green sheet*	
27. Now can you tell me what igneous rocks are?	a. None b. Repeat c. What are igneous rocks?									*FULL VR:* *(They are rocks that are) formed by heat.*	
28. Today there are still places where the earth's surface is molten. Can you guess what kind of places these might be?	a. None b. Repeat c. What places still have molten rocks?									*FULL VR:* *ANYTHING appropriate including Yes/No*	
29. There is a piece of lava among your rocks. Can you guess which one it is?	a. None b. Repeat c. Which rock is from a volcano?									*FULL NVR/VR:* *(1) Looks for, chooses one of rocks from table.* *(2) Says Yes/No, or asks if choice correct.*	
30. Pick up the lava and describe it for me.	a. None b. Repeat c. Pick up the lava. What color is it? What does it feel like?									*FULL NVR/VR:* *(1) Selects largest rock, picks up* *(2) Describes*	

392

452

453

3-12

ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
31. Can you tell me what you remember about where lava comes from?	a. None b. Repeat c. Where does lava come from?									FULL VR: Provides some of given information about lava.	
32. Put the lava on one of the small squares on the green paper.	a. None b. Repeat c. Pick up the lava. Do you see a small square on your green paper? Put the lava there.									FULL NVR: (1) Places lava on (2) Small square on (3) Green paper	
33. Hold up the rock with the pointed tip and look at it carefully.	a. None b. Repeat c. Find the rock with the pointed end. Hold it up, and look at it.									FULL NVR: (1) Finds arrowhead (2) Holds up (3) Looks at it	
34. Look at the rock in your hand and describe what it looks like.	a. None b. Repeat c. Look at the rock in your hand. Is it smooth or bumpy? What is the end like?									FULL VR: Describes arrowhead	
35. Can you tell me why it isn't a crystal?	a. None b. Repeat c. Tell me why this rock is not a crystal?									FULL VR: "Can't see through it"	

393

3-13

ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
36. Now put the arrowhead on the small square that is left on the green paper, and take bag #2 from the box.	a. None b. Repeat c. Look at the green sheet. Do you see a small square with nothing in it? Put the arrowhead in that square.									*FULL NVR:* *(1) Places arrowhead* *(2) Small square* *(3) Green paper* *(4) Takes bag #2 from box.*	
37. Did you find the one that has marks like stripes?	a. None b. Repeat c. Look for the rock with stripes. Did you find it?									*FULL NVR/VR:* *(1) Looks at rocks on paper* *(2) Looks at sides* *(3) Indicates Yes/No as appropriate*	
38. Tell me what you know about how this kind of sandstone is formed.	a. None b. Repeat c. What is sandstone made out of?									*FULL VR:* *Repeats some of given information*	
39. Put this piece of sandstone in the small square on your blue paper.	a. None b. Repeat c. Pick up the sandstone. Put it in the small square on the blue paper.									*FULL NVR:* *(1) Places sandstone* *(2) Small square* *(3) Blue paper*	
40. Take a look at the smaller piece and tell me what it is like.	a. None b. Repeat c. Find the smaller piece of limestone. What is it like?									*FULL NVR/VR:* *(1) Looks at other rocks* *(2) Picks up smaller rock* *(3) Describes*	

394

3-14

ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
41. Put this piece of limestone on the other small square on your blue sheet, and pick up the other piece of limestone from the table and look at it.	a. None b. Repeat c. Put this piece of limestone in the other small square. Now pick up the other piece of limestone and look at it.									*FULL NVR:* *(1) Picks up limestone* *(2) Looks at it*	
42. See if you can find any fossils in this piece of limestone. Can you tell me how they might have gotten in there?	a. None b. Repeat c. How did the fossils get in the limestone?									*FULL VR:* *Repeats some of given information*	
43. Put this piece of limestone in the big square on the blue paper.	a. None b. Repeat c. Pick up the limestone. Put it in the big square on the blue paper.									*FULL NVR:* *(1) Places limestone* *(2) Big square* *(3) Blue paper*	
44. Do you remember how the rocks on the green paper were formed?	a. None b. Repeat c. How were the rocks on the green paper made?									*FULL VR:* *(They were formed)* *"by heat."*	
45. I want you to tell me where each rock is. Be sure to say where you put the crystals, the arrowhead, the lava, the sand-tone and the two pieces of limestone.	a. None b. Repeat c. Say where each rock is. Where is the crystal? Where is the arrowhead? Where is the lava? Where is the sandstone? Where are the two pieces of limestone?									*FULL VR: Says where each thing is:* *(1) Crystal (2) arrowheat (3) lava (4) sandstone (5) limestones*	

395

3-15

ITEM	PROMPTS	RESPONSE CORRECTNESS Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
46. Can you put the rocks from the last bag of rocks on the yellow paper?	a. None b. Repeat c. Get the last bag of rocks out of the box. Put them on the yellow paper.									*FULL NVR:* *(1) Takes last bag out* *(2) Removes rocks* *(3) Places on yellow*	
47. Did you find the light-colored rock?	a. None b. Repeat c. Which rock is light colored?									*FULL NVR/VR:* *(1) Finds light colored rock* *(2) Yes/No as appropriate.*	
48. Does this piece of marble look like the limestone that you have on the blue paper? How is it different?	a. None b. Repeat c. Look at the marble. Now look at the limestone on the blue paper. Is the marble different from the limestone? How?									*FULL VR/NVR:* *(1) Compares marble & limestone* *(2) Says how they look different*	
49. Why do you suppose marble is used for statues?	a. None b. Repeat c. Why is marble used for statues?									*FULL VR:* *Provides some of given information*	
50. Put the piece of marble back on the yellow paper and look at the other rocks.	a. None b. Repeat c. Put the piece of marble on the yellow paper. Now look at the other rocks on the yellow paper.									*FULL NVR:* *(1) Puts marble on yellow paper* *(2) Looks at other rocks*	

396

ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
51. Did you find the dark gray colored rock?	a. None b. Repeat c. There is a dark colored rock there. Did you find it?									*FULL NVR/VR:* *(1) Finds dark gray rock* *(2) Shows it to RA* *(3) Responds Yes/No as appropriate*	
52. Why couldn't you make blackboards and roofs out of sandstone?	a. None b. Repeat c. Why aren't blackboards and roofs made out of sandstone?									*FULL VR:* *Provides some of given information.*	
53. Look at the last piece of rock. It's the shiny black rock.	a. None b. Repeat c. Find the shiny black rock.									*FULL NVR:* *(1) Put slate back* *(2) Yellow paper* *(3) Pick up coal*	
54. Hold the coal up and look at it carefully.	a. None b. Repeat c. Hold up the coal. Look at it.									*FULL NVR:* *(1) Holds up coal* *(2) Examines coal*	
55. Now if someone asked you what you know about coal, what would you tell them?	a. None b. Repeat c. What do you know about coal?									*FULL VR:* *Provides some of given information*	

397

ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
56. Did you know coal can be used to heat houses?	a. None b. Repeat c. Can coal be used to heat houses?									FULL V/NVR: Acknowledges Yes/No as appropriate	
57. What's marble used for?	a. None b. Repeat c. What can people make out of marble?									FULL VR: Provides some of given information	
58. What about slate?	a. None b. Repeat c. What can people make out of slate?									FULL VR: Provides some of given information	
59. Do you remember how coal is used?	a. None b. Repeat c. What do people use coal for?									FULL VR: Provides some of given information	
60. Put the rocks on your green paper into bag #1 and put it back into the box.	a. None b. Repeat c. Pick up the rocks on your green paper. Put them into bag #1. Now put the bag into the box.									FULL NVR: (1) Puts rocks on blue paper in bag #1 (2) Puts Bag in box	

3-17

398

464

ITEM	PROMPTS	RESPONSE CORRECTNESS: Verbal Full	Verbal Part	Verbal Amb.	Verbal Incr.	Non-Verbal Full	Non-Verbal Part	Non-Verbal Amb.	Non-Verbal Incr.	COMMENTS	TRANSCRIPTION OF LANGUAGE (Do Not Write In This Space)
61. Next put the rocks on the blue paper back in bag #2 and put that away in the box.	a. None b. Repeat c. Pick up the rocks on the blue paper. Put them into bag #2. Now put that bag into the box.									*FULL NVR:* *(1) Puts rocks from blue paper in bag #2.* *(2) Puts bag in box*	
62. The rocks on the yellow paper go into bag #3, and it belongs with the other bags in the box.	a. None b. Repeat c. Now pick up the rocks on the yellow paper. Put them into bag #3. And now put that bag into the box.									*FULL NVR:* *(1) Puts rocks from yellow in bag #3;* *(2) Puts bag in box*	
63. The papers belong in the envelope.	a. None b. Repeat c. Put the sheets of paper into the envelope.									*FULL NVR:* *Papers back in envelope*	
64. Take off the microphone and the earphones.	a. None b. Repeat c. Take off the microphone. And now take off the earphones.									*FULL NVR:* *(1) Removes microphone* *(2) Removes earphone*	

3-18

399

Appendix C

Lesson Transcripts

Excerpt #1:

Teacher with math group made up of about a half of her third grade Spanish-English bilingual class. This group, the "Tigers" consists of the students who know the least English in the class. The students are seated at tables in the front of the room; the teacher stands before them. She straightens herself up, looks out over the class without saying anything for a moment, then speaks up in her "public" voice:

1. T: OK, Tigers. Open your mathbooks to page 226. Now we're going to review this page just for a little while since it's been two days since we have used this book. You did have math on Friday, but we didn't use our books. Now we are talking about fractional parts of something. Now look at our problems.

2. T: OK, now boys and girls, when we talk about one-half of a number, like one-half of 6, that's the same as dividing 6 by--, Luis?

3. Cl: 2.

4. T: Same as dividing 6 by 2! {She writes the problem on the board: 6 over 2. Pointing at the 2, she says:} You use your denominator--that's the bottom number, and you divide this number {points at 6} by the bottom number of the fraction. What is 6 divided by 2?

5. Cs: 3!

6. T: Equals 3! {Writes the equation on the board: "1/2 X 6 ="} So one-half of 6 is--

7. Cs: 3!

8. T: 3. OK? Let's do another one. What if I told you I want you to find one-third of --12? {She writes "1/3 X 12 =" on the board as she speaks.} It's the same thing as dividing 12 by what number, Rolando?

9. C2: 3.

10. T: It's the same as dividing 12 by 3. {She writes this as a fraction on the board: 12 over 3.} 12 divided by 3 is--

11. Cs: 4!

12. T: 4! So one-third of 12 is--4!

13. Cs: 4! 4!

14. T: Let's do another. This time, we're going to do one that's a little harder. One-sixth of 36 equals {writes equation on board as she speaks: "1/6 X 36="}, is the same as, 36 divided by what number? Carlos? Same as 36 divided by--

15. C3: 6.

16. T: 6. What is 36 divided by 6, Yvonne?

17. C4: 6.

18. T: Equals 6! {Pointing at the equation on the board she asks:} So what is one-sixth of 36?

19. Cs: 6!

20. T: 6. Everybody remember that? Remember when we did the work on Thursday? OK? It's really easy because your top number is one. So all you have to do is go ahead and divide your second number, the one they want to know the fractional part of, by the denominator of your fraction {she points at the relevant parts of the statements on the board as she says this}. It gets a little more complicated when we are doing it where it had another number on the top half of the fraction, like two-thirds, or two-sixths, but these are easy because you only have to do ahead and do like a division problem, OK?

21. T: Do we need to do any more problems to refresh your memory? Oh, Roy! You weren't here. Let's do one more for Roy because he wasn't here last week. These are easy, Roy. We're talking about fractional parts of certain numbers, let's say one-fourth of 24 equals some number. All we do is say 24 divided by the bottom number of the fraction--equals-- {She writes the two statements of the problem on the board, with each part written as she

refers to it.}

22. T: {To Roy:} OK, what is 24 divided by 4?

23. C5: {No response}

24. T: What number times 4 would give you 24?

25. C5: 6?

26. T: 6. Good. So one-fourth of 24 equals 6. OK, these problems are just like division problems. You divide the second number, the whole number by the bottom number of the fraction.

27. C7: Do we put down the, this division number--where, the one-third of 6 equals 2?

28. T: OK, no--you don't have to write out the division problem, but I think it's a good idea to do so so you can see exactly how you got the answer. Sometimes we try to do everything in our heads, but then you don't see your mistakes. You can't catch your mistakes. It's all up here [taps forehead], OK? You don't have to write out your division problems, but I think it is a good idea! So that you can check your problems before you go on to next one. So you can make sure you didn't make any mistakes in your division up in your head, OK?

Excerpt #2

Teacher with third grade Spanish-English bilingual class. She is going over a list of English spelling words written on the chalkboard. The object of the lesson is to teach the children the meaning of these items so they can use them in sentences which they are construct and write out on their own.

1. T: Let me go over these first. Pongan atencion Uds. [=Pay attention.]

2. T: {To a student who seems to be confused:} Maria puede trabajar contigo. [=Maria {the TA} can work with you.]

3. T: {Pointing at the first word listed on the board:} Number one is "weak". Not the day of

the "week". It's when a person is weak. And that means you don't have too much strength. Like, when you get sick, and when you catch the flu. After you get over the flu, you still feel kinda weak. Right? You're not very strong. Weak.

4. T: Esto quiere decir "debil". Cuando uno esta debil, no esta fuerte. Por ejemplo, cuando tengamos la gripe, verdad? No tenemos fuerzas. Estamos debil. Es lo que quiere decir esta palabra. [=This means weak. When someone is weak, he's not strong, right? We don't have much strength; we're weak. That's what this word means.]

5. T: Number two is "spoke". The past tense. I spoke to my friend yesterday. OK. In the past tense.

6. T: Uh, esto quiere decir "hablar", en el pasado. Yo--ayer hable con mi amigo. [=This means to speak, in the past. I--yesterday, I spoke with my friend.]

7. T: Number three is "silk". Know what that is? It's material. It's fabric. It's very shiny, and it's very soft. I'm sure you've seen this kind of material.

8. C: {unintelligible} a pillow.

9. T: Yeah, pillows can. The outsides can be made of silk. It's shiny and silvery.

10. T: Esta palabra es "seda". Saben lo que es tela. [=This word is silk. You all know what cloth is.]

11. C: {unintelligible}

12. T: Es tela, pero es bien suavecito y es brillosa. Y con la mano se resbala--el material. [It's cloth, but it's very soft and shiny. You can slide your hand on it--the material.

13. T: Number four is "pack". Like I'm going to pack a lunch. Or it could be a bag. It could be a backpack, when people go hiking. That's what it is pack.

14. T: Esto es como una bolsa, como empacan una

bolsa grande de comida o de lo que sea. [=This is like a bag, like when they pack a large bag of food or whatever.]

15. T: Number five is "neck". El cuello. And number six is "lake". You know what that is. Lago. Number seven is "brick". Ladrillo.

16. T: Number eight is "beak", the mouth of a bird. The beak. El otro es la boca de la, del pajarito. El pico, el piquito. Verdad? El pico. Piquito. [=The next one is the mouth of a bird. The beak, the little beak, right? The beak. Little beak.]

Excerpt #3

Same teacher as in excerpt #1 with a reading group in her third grade class. The students are Spanish-English bilingual students, most of them classified as LEP. The teacher has been going over some vocabulary items with these students in preparation for silent reading of a story in their English readers.

1. T: {Points at word "neighborhood" on her chart:} Your neighborhood. Who can tell me what that word means? Patricia?

2. C: Like the place where you live?

3. T: Um-hum. It's the area where your house is. Your neighborhood, boys and girls, is that area, right closeby, where your house is.

4. C: Uh, where it is all the block?

5. T: Uhm-hum. It usually means like within a block or so.

6. C: Goes to a block?

7. T: Uh-huh. Within a block or so. And the people who live in your neighborhood are called your, what?

8. Cs: Your neighbors!

9. T: Yes, the people who live in your neighborhood are your neighbors. The neighborhood is the area close by your house. OK, let's go over the words again.

{Teacher and students read the list of words again until they get to the word "neighborhood":}

10. T: Neighborhood. Is this a compound word?

11. Cs: Yes. Yeah.

12. T: Made up of what?

13. C: Neighbor!

14. T: And--

15. Cs: Hood!

16. T: Yes!

Excerpt #4

Teacher with a reading group in a third grade bilingual class. The students are Cantonese English bilingual students, most of them classified as LEP. They have been going through some new vocabulary items in preparation for completing an assignment in their spelling workbooks.

1. T: Now let's see how you're going to do this. {Page in workbook}

2. T: {Paraphrasing the text:} Now suffixes that tell about what people do can be -er or -or. What is a suffix?

3. C1: Beautiful?

4. T: This is something we forget all the time. What is a suffix?

5. C2: Part of a word.

6. T: It's a part of a word, but what part of a word?

7. C2: Some part like a "E-R"?

8. T: Yes! Where does a suffix go?

9. C2: Like a, behind a word?

10. T: At the end of a word, right! To change the meaning of a word just a little bit. Now

		look at the first part. {Reads:} "This woman governs the state." So she's a--
11.	Cs:	Governor!
12.	T:	Governor! "O-R" is a suffix. It tells what kind of work a person does. Look at the next one. {Reads:} "This man teaches. He is a--
13.	Cs:	Teacher!
14.	T:	Teacher! "E-R" is also a suffix that tells what a person does. All right. Now this says "write the word that belongs on the like", Let's read the words so we know what they are. What are the first two words, John?
15.	C4:	Sailor, actor.
16.	T:	Sailor and actor. What does a sailor do?
17.	Cs:	Sail--on a boat.
18.	T:	Uh, uh, uh! Hands, hands, hands! What does a sailor do? Lee?
19.	C5:	Work on a boat.
20.	T:	Works on a boat. He sails on a boat. He's a sailor. And what does an actor do?
21.	C5:	An actor is the one who acts.
22.	T:	In what?
23.	C5:	In the movie.
24.	T:	In the movies, or on TV, or in plays. Yes.
25.	T:	And what are the next two words, Norman? Can you tell me?
26.	C6:	Inventor.
27.	T:	Inventor, yes, and--
28.	C6:	Mayor.
29.	T:	What does an inventor do? Morris, do you know?
30.	C7:	I dunno.

31. T: Fong, do you know?

32. C8: They invented up things?

33. T: They make things. New things. An inventor made up the first TV. An inventor made the telephone, the first telephone. An inventor made the first electric light. An inventor invents things. He makes up new things for the first time.

34. T: What does a mayor do?

35. C8: A mayor is the person who own the city?

36. T: He doesn't own the city. The mayor doesn't own the city. He's kind of like the leader of the city. Do we have a mayor?

37. Cs: Yeah.

38. T: Raise your hand. Who is our mayor? {No response}.

39. T: Ooh! You forgot yesterday! Who is our mayor?

40. Cs: Mayor Feinstein!

41. T: Yes! Mayor Feinstein. Is our mayor a man or a woman?

42. Cs: Woman!

43. T: Yes, so a woman can be a mayor. A woman can be a govenor. A woman can be a president! All right. The next two.

44. C: Tailor and a collector.

43. T: OK, do you know what a tailor does? May?

44. C9: A tailor is, is someone who make clothes..

45. T: Yes, a tailor is someone who makes clothes, especially suits and coats. And what about a collector? What does a collector do? Norman?

46. C6: He collects things.

47. T: He collects or gathers and saves things. Collectors sometimes gather and save

bottletops, sometimes they gather and save baseball cards. What else can collectors gather together?

48. C6: Stamps.

49. T: Stamps.

50. C6: Money?

51. T: Coins! Lots of people collect coins. All different kinds of money and coins from all over the world. People who collect coins are called coin collectors. All right, the next two? Tong?

52. C: Ranger, butcher.

Excerpt #5

Teacher with a reading group of 10 LEP students in a third grade Cantonese-English bilingual class. The teacher leads the students in a discussion of the story which the children had just read silently.

1. T: Look on page 42. Where do you suppose they are there?

2. C1: In the, uh, in the park.

3. T: In the park. How many of you have been to Golden Gate Park?

4. Cs: {A few hands up}

5. T: Where is it?

6. Cs: San Francisco.

7. T: It's in San Francisco. Look at that picture there on pages 42 and 43. Do you see--have you ever been to a place where there is a bridge?

8. Cs: Yeah, yes!

9. C2: And you know--and down--uhm, uh, the--uh, uh, 14th Street? {Child gestures as he speaks, arching one of his arm high, the other arm passing under it}

10.	T:	Uh, down on East 14th Street? There's a bridge down there?
11.	C2:	No, uhm, uhm, uh--{He repeats the gesture}
12.	T:	Down by the water?
13.	C2:	Uhm-hum.
14.	T:	They call that the es--tu--ary, the estuary. That's where the water comes in--from the bay.
15.	C3:	They have a baby center there.
16.	T:	They have a baby center?
17.	C4:	Yeah, a baby sitter.
18.	T:	A baby sitter. They have baby sitters!
19.	T:	Have you ever seen a bridge like this? {Redirects group's attention to the picture in the book:} A wooden bridge! Do you know where there is one like that around here?
20.	Cs:	I know! I know!
21.	C5:	At the zoo.
22.	T:	Yes, at the baby zoo. That's right.
23.	C5:	And they got one at Laney College.
24.	C6:	Yeah, it's bigger.
25.	T:	You know where else there is one? At Golden Gate Park. There's a place called the Japanese Tea Garden.
26.	Cs:	Yeah, yeah.
27.	C6:	I been there.
28.	T:	Did you ever see that wooden bridge?
29.	C6:	Yeah.
30.	T:	It's a big one. Goes way up high.
31.	C7:	I went to San Francisco to Chinatown. And um, on freeway sometime they have a big bridge on them.

32. T: Yes, but the only thing is that on the freeway, those bridges are not made of wood. Those are made of steel and concrete. This one here is made of wood.

33. T: OK, what animal is that on page 43? {A swan}

34. C6: Goose.

35. T: How many say a goose?

36. Cs: {Hands}

37. T: Do you know another animal that looks like a goose?

38. C2: A dock!

39. T: A duck. But this one here has a looo-ong neck! It begins with--sw-- {forms initial sounds of the word} --sw--!

40. C4: I know! I know! Uh, uh, a swan!

41. T: A swaaaaan! Yes, a swan. Did you ever hear that poem? Swan swam over the sea. Swim, swan, swim! Swan swam back again. Well swum, swan! Did you ever hear that? That's a good poem. An un-twistable tongue-twister poem.

APPENDIX D

Ratings of Classroom Features Relevant to Language Learning

Classroom: _____ Code: _____ Rater: _____

CLASSROOM VARIABLES	RATING[1] (1-7,NA)	COMMENT
General Classroom Factors		
1. Further development of L1 proficiencies is promoted for target subjects above and beyond that used in instruction.	___	
2. Children are on task most of the time.	___	
3. The noise level in classroom is low.	___	
4. The level of physical activity and movement in classroom is low.	___	
5. The class activities are preplanned, not just the topics, but the events within the activities.	___	
6. The class is frequently allowed to make choices about learning activities.	___	
7. Most of the time spent in learning activities is related to language and/or school content (as opposed to games, crafts, etc.).	___	
Models of Teaching and their Execution		
8. Teacher frequently presents puzzling event or situation for students to explore or react to as initial part of lesson.	___	
9. Teacher frequently presents or elicits data or instances from class/group and then goes on to have them categorized.	___	

[1] Rate how descriptive each of the following sentences is of the classroom, using "7" to indicate "very descriptive" and "1" to indicate "not descriptive." Use NA or indicate "does not apply." Leave rating space blank or insert a dash if you cannot rate a dimension. However, be sure to include a comment to that effect, so that it is clear that the item was not just skipped.

10. Teacher frequently presents instances of a concept and then has children work out the concept and its defining attributes. ___

11. Teacher frequently presents rule or concept with its defining attributes and some sample instances and noninstances and then goes on to have children practice this classification. ___

12. Teacher frequently presents material to be memorized (associations, correspondences, even poems, etc.). ___

13. Teacher frequently presents questions, passages to read, or other stimuli, and has children respond (or teacher models response) and then has children respond to more instances for which they receive selective reinforcement. ___

14. Teacher frequently has children working in group projects (not just seated in group). ___

15. Teacher frequently has children working individually. ___

16. Teacher frequently has children participating in whole class activities, not just seated that way. ___

17. Teacher frequently takes the role as the center of the learning activity, being the source of information, the organizer and the pacer of the situation (high structure). ___

18. Teacher frequently takes the role as a reflector and clarifier of student ideas and a facilitator of the activity (low structure). ___

19. Teacher uses a variety of teaching models both within and across subject matter areas. ___

20. Teacher is flexible in the use of teaching models or scripts, varying the exact conditions and characteristics from day to day and topic to topic. ___

21. Teacher is effective in using the teaching models that he/she frequently employs. ___

Language Input

22. Teacher frequently uses L1 to interact with children concerning schoolwork. ___

23. Teacher frequently translates individual words to clarify their meaning. ___

24. Teacher frequently uses translations to clarify instructions in lessons or assignments. ___

25. Teacher produces a great deal of content-relevant English, audible to most of the class (not just giving instructions, but providing information, giving explanations, etc.) ___

26. Students are frequently exposed to literary forms of English through oral reading of stories, poems, etc. ___

27. Teacher frequently attempts to promote vocabulary development. ___

28. Teacher frequently plans and carries out instruction concerning the structural aspects of English. ___

29. Teacher often draws attention to language per se in activities where language is performing primarily a communicative function. ___

30. Teacher frequently corrects mistakes in spoken English. ___

31. Teacher frequently focuses on teaching high level skills (comprehension, integration of operations, etc.). ___

32. Teacher frequently focuses on teaching mechanics or lower level skills or operations. ___

33. Teacher frequently promotes the acquisition of metalinguistic concepts, e.g., verb, sentence, etc. ___

34. Students interact often with peers about schoolwork. ___

35. Teacher frequently repeats and modifies previous utterance (upgrading, downgrading, paraphrasing) to improve understandability. ___

36. Teacher frequently provides nonverbal demonstrations or motions to help clarify language. ___

37. Teacher frequently adjusts and tailors use of English to the ability level of students (groups or individuals). ___

38. Teacher frequently provides individual clarification, help, and tutoring. ___

39. Teacher frequently checks with children to see if she/he is being understood (i.e., uses overt checks like "Do you understand?", etc.). ___

40. Most of the students are asked to perform learning tasks that seem appropriate for their levels of learning proficiency. (Raters should consider both oral and written assignments. Note if there is discrepancy.) ___

41. Teacher's language could be considered a "good language model" -- rich, elaborated language, appropriate vocabulary, structurally well formed, clear articulation, accurate spelling, etc. (Raters should comment on particular strengths and weaknesses.) ___

42. Aide(s) frequently uses L1 to interact with target children concerning schoolwork. ___

43. Aide(s) frequently translate single words to help clarify their meaning for targets. ___

44. Aide(s) frequently uses translations to clarify instructions in lessons or assignments for target children. ___

45. Aide(s) frequently plans and carries out instruction concerning the structural aspects of English with targets. ___

46. Aide(s) frequently corrects mistakes in spoken English of target subjects. ___

47. Aide(s) frequently focusses on teaching high level skills (comprehension, integration of operations, etc.) with target subjects. ___

48. Aide(s) frequently focuses on teaching mechanics or lower level skills or operations with target subjects. ___

49. Aide(s) frequently provides individual clarification, help, tutoring, to targets. ___

50. Aide's language could be considered a "good language model." (Comment on strengths and weaknesses of each aide.) ___

(Amount of time/wk. in each subject matter area and amount of time/wk of direct instructional time in each subject matter area for target children should be considered as input variables, but will not be rated on this form.)

Feedback

51. Children are frequently given immediate feedback in oral production situations. ___

52. Children are frequently given informative, diagnostic, and/or explanatory feedback in oral productive situations. ___

53. Children are frequently given prompt feedback on written assignments or homework. ___

54. Children are frequently given informative, diagnostic, and/or explanatory feedback on written assignments or homework. ___

55. Teacher frequently monitors children's work in progress. ___

56. Teacher frequently allows or requests target children to provide additional responses when the initial one was incorrect. ___

57. Teacher attempts to diagnose reasons for student difficulty with learning tasks. ___

Production Factors

58. Teacher frequently asks questions that require extended oral response (more than just a single word or response). ___

59. Teacher frequently requires target students to compose extended written text (not copy). ___

60. Teacher provides opportunities for all children in class to respond orally (either by calling on all children or opening the floor to volunteers). ___

61. Teacher frequently requires oral responses in lessons (as opposed to lecture with no oral participation required). ___

62. Teacher frequently requires written responses in lessons. ___

63. Teacher does not allow herself to be interrupted or distracted very frequently. ___

Ratings of Target Subjects

For each target subject who was observed sufficiently on the tape, rate:
(1) the frequency with which his/her responses were exclusively in English,
(2) the extent to which the child was "on task," and
(3) the frequency with which the child contributed verbally to classroom activities.

Name of Target Child	ID Number	(1)Freq.Engl.	(2)On Task	(3)Contrib.

Other comments about this classroom, including a global evaluation of how good you feel this classroom was for language and content learning and any comments you have about the teaching or handling of NES subjects: